THE VETERINARY RECORD

A Weekly Journal for the Profession.

No. 1017. JANUARY 4, 1908 VOL. XX

THE LATE PROF. THOMASSEN.

On another page we print a letter regarding the proposed memorial to the late Prof. M. H. J. P. Thomassen, of Utrecht.

Through the courtesy of our correspondent, we have also received an appreciative obituary notice, which chiefly relates to the late Professor's excellence as a teacher, and to his personal virtues. These traits most affected Thomassen's own countrymen, who recognised his worth during his lifetime by such distinctions as the honorary doctorate of the State University at Groningen, and the Knighthood of the Legion of Honour. His original scientific work appeals to a larger audience, and amply justifies the hope that veterinarians in all parts of the world may subscribe towards his memorial.

During his professional career of nearly forty years Thomassen was a frequent contributor to French, German, and Dutch scientific journals, writing upon both pathological and clinical subjects. Tuberculosis, and diseases of the nervous system received special attention from him, but he will be chiefly remembered in connection with actinomycosis. To him we owe the potassium iodide treatment of actinomycosis, which he first introduced in 1885, and which is now known and adopted wherever the disease exists. This alone would fully entitle him to a monument raised by international subscription. Many practitioners in England, as in other countries, have frequent cause to remember Thomassen with gratitude, and we hope that some, at least, will join in erecting a fitting memorial of the man and his work.

JOHNE'S DISEASE.

The Southern Counties' Society recently passed a resolution asking that the Board of Agriculture should take steps to stamp out "Johne's Disease," and suggesting that the affection should be scheduled. No doubt the subject is already engaging the attention of the Board, and country practitioners might give valuable assistance. Considering that the disease has only been recognised in England during the last two years, it is possible that the Board may be glad of information regarding both its frequency and the extent of its distribution. Practitioners can supply this. Necropsies should be made, whenever possible, upon cattle which have presented symptoms suggestive of "Johne's Disease"; and, if the post-mortem appearances increase the suspicion, the viscera should be submitted to a bacteriologist. Any clinician who will do this should soon be able to answer the question of whether or not the disease exists in his particular district.

In March last, Sir John M'Fadyean described the question of scheduling "Johne's Disease" as worthy of serious consideration. That consideration would be greatly facilitated if the profession would help the authorities in ascertaining the extent of its prevalence. Its serious nature, when it does exist, is undeniable.

BOTRYOMYCOSIS AFFECTING THE TAIL.

HENRY TAYLOR, F.R.C.V.S., Hayward's Heath.

The subject of the above was a brown gelding of the van horse type, which was used for farmwork, about 15 years of age. He has been in his present owner's possession for the last 11 years. Some three years ago it was noticed that the end of his tail was becoming enlarged, and nearly two and a half years ago my attention was drawn to the fact, the growth then being about the size of an orange.

Last month it was removed, having then attained a size comparable to that of a cocoanut or thereabouts, the shape however being more globular. It was hard to the touch, and there was a prolongation extending upwards for one or two inches on the under surface of the tail. There had been a little discharge from one or two points on one side which had matted the hairs together. I should have mentioned that the enlargement was removed by docking, and the subsequent hæmorrhage was rather difficult to arrest.

I sent the portion excised to Prof. Sir John M'Fadyean, who very kindly examined it and reported that it was a case of botryomycosis, from microscopic examination of pus found in the depth of the growth.

An item of interest in connection with the case is the slowness of the rate of growth, viz., three years.

GASTRIC DISTENSION IN A DOG.

By H. W. Billinghurst M.R.C.V.S., Alresford.

The following report of a case in a bloodhound records a condition which I do not recollect seeing described, and that may therefore interest your readers. The bloodhound in question was feeding at 4 p.m.; it was noticed to whimper and leave the trough. On examination there was a little blood on the gums, but nothing else was noticed, and it was replaced and finished its meal. Soon after, in consequence of a kennel fight in which it was top dog, it was removed to a separate kennel.

About 7 p.m. it was heard to wimper, and when examined was found with distended abdomen, trying to vomit, temp. 99°. The kennel man gave ipecacuanha wine, etc.—result, a little mucus: and an enema, followed by a passage of firm fæces. Later, a stimulant was given with much difficulty.

The abdomen continued to increase in size, and when I saw the case at 9 p.m. it was immensely distended; the hound lying on its side, collapsed, icy cold, temp. 98·2°, and pulse about 130.

I concluded from the kennel man's report that it had swallowed a bone, causing impaction, and probably perforation. (This hound had previously swallowed a large S hook from a chain, and after about 10 days had passed it without ever showing any discomfort.) I had the animal removed to the front of a fire and placed in a hot bath, applied massage to the abdomen, and gave an injection of eserine and strychnine. The temperature gradually rose to 102·2, but the distension of the abdomen increased, and after howling a few times the hound died at about 1 a.m.

On opening the body the next morning, the stomach was seen to be immensely distended, extending below the umbilical region, and almost black in colour. There was a quantity of black treacly fluid in the peritoneal cavity. The stomach was rotated from left to right on the œsophagus, almost a complete turn, so as to completely close the œsophagus, at the same time drawing the attached part of the diaphragm into spiral folds. The duodenum was drawn almost round the œsophagus so tightly as to prevent the escape of gas in that direction. On partially returning the stomach to its natural position the gas began to rush into the bowel.

The only other lesion noticed was great engorgement of the lungs, due probably to pressure. There was a very large quantity of food in the stomach, but no sign of any bone.

ENDOCARDITIS.

Subject.—A yearling grey cart filly the property of a Kent farmer who purchased it from his brother when a foal, undocked, and unbroken.

History.—This animal had been lame behind, and under the care of a vet. for three weeks quite unknown to me ere I saw the case, which was late at night. However, within 48 hours we both arrived on the scene, and after the owner having explained matters satisfactorily we held a friendly consultation.

Symptoms.—These were the usual ones attended with pyrexia, increased frequency of the pulse, dyspnœa, and obvious cardiac disturbance. The animal had a very anxious expression of countenance staggered about when made to move, and exhibited signs of great distress at times; vertigo, and clonic spasms of the superficial muscles of the anterior part of the body, and complete anorexia were present. The heart's action was tumultous and apparently forcible, but the pulse was very feeble venous); pulse 80 to 90; temp. 106 to 107. On auscultating the chest a "bellows murmur" was distinctly heard. There was a tendency to œdema of the limbs and dropsical effusions, and anasarcous swellings followed in due course as the disease progressed.

Treatment. A blister was applied to the heart externally, and cardiac sedatives and stimulants were alternately administered internally to relieve the irritability, pain, and subsequent exhaustion which naturally followed.

Diet consisted of milk, eggs, brandy, and nutrient enemas, and demulcent gruels.

Prognosis unfavourable, the filly suddenly collapsed and I made a post-mortem, the result of which was interesting.

Post-mortem lesions,— Heart was extensively hypertrophied, and on section the "endocardium" appeared acutely inflamed, and on the valves the well-known vegetatious or warty excrescenses were plainly visible. The kidneys were greatly enlarged. The brain showed the lesion of "congestion" and there was considerable effusion present in all the serous cavities throughout the body, otherwise the other organs were normal.

Remarks —I have seen "Endocarditis" frequently in swine when making post-mortems on pigs suspected of being affected with "Swine fever," as a result of being the subject of "Swine erysipelas," but I think cases of the above are somewhat rare in "equines," and are usually connected with "rheumatism." In this case it would appear to be "hereditary."

Henry B. Eve, M.R.C.V.S.

Folkestone.

THE SWINEY LECTURES.*

HORSES OF THE PAST AND PRESENT.

IV.

Of the "vestiges of creation," the chestnuts of the horse are amongst the most interesting. Chauveau regarded them as remnants of digits, the front one of the pollex, the hind one of the hallux. Sir W. H. Flower has pointed out (1) that, as the inner digit is the first to disappear in all mammals, it is most unlikely any vestige would remain of the first in the horse after the complete loss of the

* The first of these digests of leetures by Prof. J. Cossar Ewart, M.D., F.R.S., appeared in our issue of the 14th December.

second, fourth, and fifth digits; (2) that there is nothing beneath the modified patch of skin showing any trace of the structure of a toe; (3) that in the fore limb the callosity is placed not on the hand but on the fore arm; (4) that the chestnuts belong to the same class of structures as the bare spots found in many mammals associated with peculiar glands.

At first Mr. Beddard thought the chestnuts were remnants of glands; but later he adopted the view, that the front one was probably the remnant of a carpal sense organ, such as occurs in Lemurs.

In the recently published "Guide to the specimens of the Horse Family in the British Museum," Mr. R. W. Lydekker considers important evidence is afforded in support of the view that the chestnuts represent glands by "the fact that when cut the callosities yield a fluid which will attract other horses, and will likewise cause dogs to keep quiet when the premises of their masters are invaded, such a fluid being almost certainly derived from an ancestral scent gland."

The study of the callosities in the adult horse having failed to reveal their nature, Professor Cossar Ewart directed his attention to their development. He established that the most important callosity—that of the "frog"—is derived from a pad which appears during the seventh week of embryonic life, under the second phalanx or joint of the middle (third) digit, not as hitherto assumed from a pad corresponding to the tip of the human finger, and that the ergot or fetlock callosity only corresponds to the middle portion of the trilobed pad in the dog's foot—not to the whole pad as stated by Sir W. H. Flower.

Prof. Cossar Ewart next demonstrated that the rudiments of the chestnuts appear during the twelfth week, and can be detected by the naked eye during the fifteenth. In a 104 days Shire embryo, the front chestnut, which was about a quarter of an inch in length, lay immediately behind the wrist—the knee of the horse—while the hind chestnut, somewhat smaller, lay under the heel—the hock of the horse. The chestnut, as development proceeds, migrates inwards: the front one in addition migrating a considerable distance up the fore arm. The chestnuts first appear as slight thickenings of the epithelium or outer layer of the skin: so exactly agree with the ergots. As development proceeds the epithelium increases in thickness, and eventually gives rise to soft, ovoid, elastic pads, which, at birth project from one-eighth to a quarter of an inch, beyond the level of the skin. At no period during or after development can Prof. Cossar Ewart discover rudiments of either glands or special sensory structures. As from first to last, the chestnuts in their development agree with the ergots—which all admit are of the nature of pads—he sees no escape from the conclusion that the front as well as the hind chestnuts are vestiges of pads which were functional in the remote five-toed Eocene ancestors of the Equidæ.

In considering the rate of growth it was pointed out that at the middle of gestation—the 24th week—the limbs bear nearly the same relation to the trunk as in the adult. But, from this time onwards, the increase of the lower portions of the limbs is so rapid that at birth the metacarpals and metatarsals are, compared with the humerus, nearly twice as long as in the adult. The metacarpal is so well developed at birth that the further increase may be under one inch; and the metatarsal generally reaches its full length before the foal is a year old.

The increase at the withers after birth varies greatly: being four-and-a-half or more the first month, one inch the second, three inches the third, but only about three inches in all, during the next three months. Under favourable conditions the total height is all but reached by the end of the second year.

Horses migrated from North to South America in Pliocene days by two routes: an Eastern or old land track, now indicated by the peninsula of Florida and the isles of the West Indies, Cuba, Dominica, etc.; and a Western, by the newly made land bridge of Panama. Some of their descendants became, by their new surroundings, especially adapted for a life on the pampas, *e.g.*, Hippidium and Onohippidium. The former had very short legs, the metacarpals being in length only four times their width, so ill adapted for speed; a short body, having only five lumbar vertebræ; the nasal bones so enormously prolonged that it is thought it must have had a trunk. Its large nasal cavities would have fitted it for either a desert life or one at high altitude. Two points in which Onohippidium differed from Hippidium were, in having a more convex skull and a long deep groove parallel with the nasal slit, which probably gave attachment to muscles connected with the upper lip; though it has been suggested that it was the seat of a scent gland. Prof. Osborn says the horse "persisted in South America until the advent of man . . . . . its remains are found associated with chipped stone implements, with pottery and fire refuse, proving that it was both hunted and eaten."

Sebastian Cabot is said to have seen wild horses in Argentina in 1530. If so, they must have been Hippidium or Onohippidium. Nothing is known of the ancestors of these species; nor have they, so far as is known, left descendants.

Royal College of Veterinary Surgeons.

EXAMINATIONS IN SCOTLAND.

At the recent meeting of the Board of examiners held in Edinburgh and Glasgow the following gentlemen passed the final examination:—

EDINBURGH COLLEGE.

Mr. W. S. Clark	Mr. H. S. A. Dunn
G. Clyde	W. G. Thomson
W. A. Doughty	

GLASGOW COLLEGE.

Mr. A. Jackson	Mr. J. Hill
F. Meikle	

The following passed the third examination :—

EDINBURGH COLLEGE.

Mr. E. Armstrong	Mr. J. A. Ramsay
G. T. Budge	G. E. Webster
D. Hannay	T. Critchley
F. Hogg	

GLASGOW COLLEGE.

Mr. P. T. Lindsay	Mr. H. Gillmor

LIVERPOOL COLLEGE.

Mr. D. P. Hoddinott	Mr. J. Holroyd *

The following passed the second examination :—

EDINBURGH COLLEGE.

Mr. S. C. Currie	Mr. F. H. Sanderson
W. Davies *	J. W. Walker *
J. P. Hamilton	W. Walker
J. Macfarlane	

GLASGOW COLLEGE.

Mr. J. S. Moncrieff	Mr. W. Anderson
H. M. Johnston	A. Kerr
J. Cunningham *	

The following passed the first examination :—

EDINBURGH COLLEGE.

Mr. L. Auchterlonie *	Mr. E. Masson

GLASGOW COLLEGE.

Mr. W. McFarlane	Mr. D. Pollock
H. M. Paul	

Marked thus * passed with 2nd Class Honours.

Z. B. RUTHERFORD,
Secretary to the Board of Examiners acting in Scotland

EXAMINATIONS IN IRELAND.

At the meetings of the Board of Examinersh held in Dublin on December 11th and 12th, the following gentlemen passed the final examination :—

Mr. William Christopher Barry
Henry Christopher Ballesty
Frederick Samuel Ringwood
Thomas Dawson Savage Taylor

The following passed the Third Examination:

Mr. J. Y. Bogue	Mr. E. J. Mulligan
M. Darby	J. McKittrick
W. Evans	F. L. Porter
C. J. E. Fitzgerald	J. H. Peard
J. V. Mahony *	

The following passed the Second Examination:

Mr. T. G. S. Bogue	Mr. J. McCann
J. Dodd	R. O'Donnell
W. T. Ferguson	E. J. Phair
C. Macara Finnie	W. Raymond
T. Gordon	M. Reidy
J. F. Hatte	C. Roche
R. Higgins	T. Sexton
S. Hunter	J. White.
J. Matthews	E. Wilson
P. McDonald	

The following passed the First Examination :—

Mr. L. J. Kelly	Mr. F. Roche
J. J. G. Keppel	C. Ryan
A. S. Mathias	E. H. Wylie
T. F. O'Brien	M. G. Hartigan
T. Revington *	

Those marked thus * obtained 2nd Class Honours.

FINLAY KERR,
Secretary to the Board of Examiners acting in Ireland.

VETERINARY MEDICAL ASSOCIATION OF IRELAND.

A general meeting was held at 8 p.m. on Thursday, the 28th November, 1907, in the Royal Veterinary College of Ireland, Shelbourne Road, Dublin. The following members were present :—The President (Prof. Mettam) in the chair, Profs. Wooldridge, Craig, and O'Connor, Capt. Pallin, and Messrs. J. B. Dunlop, W. H. Bradley, A. Watson, W. Chambers, J. H. Carr, John Holland, P. J. Howard, J. D. Richardson, M. Hedley, hon. treas., and Jas. McKenny, hon. secretary.

The following communicated their inability to attend: Col. Steel, Col. Hazleton, Messrs. J. J. Vahey, J. P. O'Reilly, J. A. Hewson, P. Creagh, W. E. Elkins, J. T. Clibborn, Geo. Newsom, J. Thompson, J. A. Jordan, J. D. Whitty, F. W. Taylor, W. P. Cushnahan, R. H. Holmes, T. McGuinness, E. C. Winter, J. B Ross, J. E. Johnston, W. Byrne, C. Allen, W. H. Wilkinson, and T. D. Lambert.

Mr. HEDLEY moved, and Mr. Dunlop seconded, that the minutes of the previous meeting be taken as read. Carried.

REPORT OF COUNCIL.

Mr. President and Gentlemen,—Since our last general meeting on the 27th August last, your Council held two meetings, one on the 18th of October, and the other on the 20th of November, and now report to you the decisions they arrived at in the following matters.

In respect to this Association subscribing to the "Hunting Testimonial Fund" we see by the report in the veterinary journals that several veterinary Associations have subscribed five guineas each, and we now ask you to decide what you wish to do in the matter.

A veterinary surgeon wrote to your Secretary suggesting that this Association should get all veterinary patent medicines analysed and the results of same made known to our members. It was decided that at present we will not take any steps in the matter.

An advertisement of a veterinary surgeon appeared in *The Irish Times* of the 28th of August last. A copy of it was sent to the Secretary of the Royal College of Veterinary Surgeons, and has been dealt with by the Registration Committee of that body.

On the 24th September, 1907, in the same newspaper, it was announced that a horse show was held in the County Galway on the 23rd of that month, and a person whose name is not on the Register of the Royal College of Veterinary Surgeons, acted thereat as a veterinary surgeon and M.R.C.V.S. was affixed to the name. It was decided that a newspaper report was not legal evidence, and we have not, up to the present, obtained such evidence in the matter to warrant our proceeding in the case.

Your Council received a poster in which it was stated that the lecturer, a veterinary surgeon, "would deal with the general care and management of live stock—horses, cattle, sheep, etc.—and treatment of diseases, and reply to any questions addressed to him on the subject matter of the lecture." We have written the following letter on the subject to the Secretary of the Department of Agriculture and Technical Instruction for Ireland :—

Veterinary Medical Association of Ireland,
116 Stephens Green, Dublin,
2nd Nov., 1907.

Sir,—The Veterinary Medical Association of Ireland sat in Council on the 18th ult., and among the several items of business had to consider matters affecting the veterinary profession from the point of view of the enclosed poster.

After a lengthened discussion it was resolved that the Secretary be instructed to send the poster to the Secretary of the Department of Agriculture and Technical Instruction, and state that while the Association is in

favour of lectures on subjects which deal with hygienic matters, and relate to the proper feeding, housing, and grooming of animals, and the prevention of disease, yet it is felt that to go beyond such "first aid" lectures is quite as objectionable to the veterinary profession as it would be to the medical profession, if a person on the pay list of the Local Government Board were to go round the country and deliver lectures on the "treatment of diseases" which affect the human subject. My Council are sure that there are quacks enough in the country, without making more through the aid of a large and important Government Department such as I am authorised to address on the subject. The enclosed poster announces a lecture to include "Treatment of Diseases" and is one of a series delivered under the auspices of the Department of Agriculture and Technical Instruction. To make the replies to any questions thereon of any practical use, would include the issue of prescriptions and directions, such as should only be given by a veterinary surgeon in attendance on the sick case, since the efficacy of treatment depends entirely on the correctness of diagnosis. I am instructed to again respectfully ask that a stronger course will be taken than hitherto to stop this very objectionable practice. It is felt by some of the members of the profession that to give large sums of money to found and support a veterinary College on the one hand, and then on the other hand take measures to teach quackery in the country through an official itinerant lecturer is not a course which recommends itself to mature judgment.

Since this class of complaint was last brought before your Department there has been a change in vice-presidents, and I am to ask that this letter will be brought under the personal notice of the new vice-president.– I am, sir, your obedient servant,

JAS. MCKENNY, *Hon. Sec.*

To the Secretary,
Dept. of Agriculture and Technical Instruction
for Ireland, Upper Merrion St., Dublin.

A letter was received from Her Excellency the Countess of Aberdeen requesting that our Association appoint a delegate to the Conference which purposes waiting on His Excellency the Lord Lieutenant and the Chief Secretary, and Mr. T. W. Russell relative to tuberculosis. We appointed your President (Professor Mettam).

The County Wexford County Council have determined to adopt a Veterinary Dispensary Scheme. We have written to the veterinarians in that district asking for information on the subject.

The North of Ireland Veterinary Medical Association has asked this Association to appoint delegates to wait on the President of the Department of Agriculture and Technical Instruction relative to the administration of the "Dairies, Cowsheds, and Milkshops Acts and Orders," and we have agreed to comply with this request, and ask you to appoint the gentlemen.

A discussion followed, opened by Mr. Watson, as to cases brought into court by the Society for the Prevention of Cruelty to Animals and the relation of veterinary surgeons thereto; also with reference to the powers of the Council and the rules of the Association.

Mr. HEDLEY proposed that the Report of Council be adopted, with slight alterations.

Prof. WOOLDRIDGE seconded, and the report was accordingly adopted as amended.

ELECTION OF NEW MEMBERS.

The following five candidates were unanimously elected members of the Association:—Major F. Eassie, D.S.O., A.V.C.; Hugh Gibson, and Chas. M. Griffin, Veterinary Branch, Dublin; Brendan M. Gunn-Kells and F. McShane, Bagnalstown.

THE DAIRIES AND MILKSHOPS ORDER.

Prof. METTAM drew the attention of the members to a letter he had received from the North of Ireland Veterinary Medical Association with reference to the question of the Dairies and Milkshops Order, and the proposed deputation to the Vice-President of the Department of Agriculture and Technical Instruction for Ireland. It appeared that the Local Government Board was the proper authority to approach, and he suggested that the discussion of the matter might be left to the Council of their Association, and that they should appoint delegates to act in conjunction with the North of Ireland V.M.A.I. so as to move to secure that a veterinary surgeon should be appointed to assist in the carrying out of the Order.

Mr. WATSON pointed out that if the question were to be discussed by the Council he would be debarred from taking any part in it, though it was a matter that interested him deeply. Perhaps it might be in order to give him an opportunity of attending the Council meeting and giving his views.

Mr. CARR had been an Inspector of dairy yards for several years, and he also felt a similar grievance in being shut out from knowing what the Council would do in the matter.

Mr. HEDLEY suggested that both should be invited to be present.

Prof. WOOLDRIDGE thought they should not specify any names, but extend the invitation generally to such members of the profession as were interested. It would not really mean more than two or three, and they could be present at the invitation of the Council and give any special assistance in their power towards furthering professional interests.

Mr. WATSON reminded them that the Dairies Orders were originally put into operation by the Veterinary Department of the Privy Council Office and they were afterwards transferred to the Local Government Board. It would require an Act of Parliament to transfer them back. He might say that in his evidence given before the Commission of Inquiry into the working of the D.A.T.I. he pointed out that a veterinary surgeon would be the only suitable person to advise as to the administration of Dairy Orders—a veterinary surgeon appointed on the same lines as the medical officer under the L.G.B.

Prof. METTAM said that a new Draft Order for the regulation of dairy yards and cowsheds had been drawn up by the Department of Agriculture and the Local Government Board acting in conjunction. He had drawn attention to the fact that no provision had been made under it for the appointment of a veterinary surgeon. The reply given was to the effect that they could not do so without powers from Parliament. He put it to the meeting that the question of appointing a deputation should be left to the Council with the addition of Messrs. Watson and Carr.—Carried.

THE HUNTING TESTIMONIAL.

Prof. METTAM reminded the meeting that the question of their contribution to the "Hunting" Fund had been deferred, waiting to see what the other Associations were doing in the matter, and they had now to decide whether they would vote a sum of money towards that Fund.

Mr. CARR had pleasure in proposing that the Association should subscribe to the Hunting Testimonial a sum of money equal to that subscribed by the other Veterinary Associations that had contributed—namely, five guineas. On many occasions Mr. Hunting had come over to meetings of their Association at great inconvenience and expense to himself in order to do any good he possibly could, and he was sure that the Association would be glad to subscribe to the Fund.

Mr. HOLLAND, in seconding the resolution, said that Mr. Hunting deverved all they possibly could do to honour him.—Carried unanimously.

CLINICAL CASES.

A CASE OF DOUBLE "GONITIS" IN A HORSE.

Prof. WOOLDRIDGE had some interesting cases he wished to bring before the notice of the meeting.

The subject was an eight or nine years old black light vanner, 17·2 hands high at the withers. The only available history was that the horse had been lame for some months and was geting worse. The horse was sent into the College and was kept under observation for a few days. He was lame on both hind legs, but was much the worse on the near. When standing the near limb was advanced and frequently held off the ground. The stifles were both abducted and the crural muscles were considerably atrophied. The tensor fasciæ femoris was extremely rigid, and felt almost as though it were cartilaginous on the near side. A swelling of a gelatinous consistency could be felt between the straight ligaments of the patella on the near side, but there was no swelling or distention appreciable affecting the off stifle. On walking, the movements of the stifles were both obviously limited, and the toes were dragged. The horse was made to trot and the dragging of the toes was then more marked. Arthritis of the stifle joint was diagnosed and slaughter recommended. The day before slaughter, however, a change occurred in the lameness; instead of being worse on the near hind, the horse stood well on it and slung the off hind, and on being walked he was much more lame on the off than on the near. These sudden changes in the degree of lameness in this affection are responsible for the name "Rheumatoid arthritis of the stifle," which is sometimes applied.

On examining the joints post-mortem, marked lesions were found affecting both stifles, and they appeared to be more recent and acute in the near stifle.

Lesions of the left stifle joint.—This joint contained a quantity of bloodstained coagulated synovia. The left tibia showed no lesions. The articular cartilage of the left patella was somewhat reddened, but the surface was smooth. The lower extremity of the left femur showed lesions affecting both the trochlea and condyles. The cartilage of the former was very red, particularly that of the outer lip, which also carried a few fibrinous fringes. The cartilage of the anterior portion of both condyles was swollen and soft with a consistence almost spongy. The inner condyle also showed erosions. All round the inner margin of the articular cartilage of this condyle there was an eroding ostitis (caries), and at the postero-internal border there were two exostoses each about the size of a horse bean. The outer condyle appeared to have slightly larger transverse diameter than the corresponding condyle of the other femur and this was accounted for by a deposition of bone at the outer margin of the articular cartilage. No lesions were found in the semilunar cartilages of this joint beyond a slight redness on the femoral surface.

Lesions of the right stifle joint. There was no effusion in this joint, and as before stated the lesions were older and less acute than those of the left stifle, in this instance the tibia was involved to an extent. The articular cartilage of both tuberosities of the tibia were eroded, and in the case of the inner tuberosity the erosions extended into the bone. The tibial surfaces of the semilunar cartilages showed erosions of the corresponding areas. The articular cartilage of the trochlea was reddened, particularly the inner lip. The posterior portion of the cartilage of the condyles was soft, as in the other femur. The inner condyle showed no erosions, but there were some markings which looked like cicatrices. The outer condyle had a slight bony deposit at the outer side, corresponding with that on the outer condyle of the other femur, but smaller.

We are indebted to *The Veterinary Journal* for the use of the blocks illustrating Prof. Wooldridge's case of Double Gonitis.

TETANUS IN A DOG.

Tetanus is not very common in the dog, and that is the only excuse for introducing the subject.

The history of the case was that about a month or five weeks before the dog, a fox terrier, met with an injury on the right temporal region, and there was an abscess formed also. This was opened and treated with fomen-

tations and antiseptics, and although the wound healed the dog got gradually worse—it seemed to have systemic trouble. The owner had some weeks previously got a ticket of admission to the College, but had lost it, so went again to the veterinary surgeon and got another, and finally the dog was brought into the College in a very advanced state of illness on the previous Tuesday.

When he arrived there was a cicatrix to be found on the right temporal region, but the wound was completely healed. The dog was able to see and appeared to have most of its faculties, but the motor apparatus was considerably interfered with; it was completely unable to stand, the legs collapsed, the head was extended and drawn upwards—a condition known as episthotonos. The muscles at the back and side of the neck, on the right side in particular, were very hard and tense, and it was impossible to bend the neck. There was no trismus, although there was a certain amount of difficulty in swallowing. The dog seemed no better next day, Wednesday, and was taken home by the owner to be cared for; he was to have been brought back for him (Prof. Wooldridge) to see, but he had not come so he concluded it had died.

Mr. McKENNY had not been able to follow the description of the symptoms in the case of the horse as he had been busy writing up his secretarial notes, but he had heard the reference to the state of affairs immediately before the horse's death, and that the horse was described as not then nearly so lame as before, as though he knew he was going to be killed. He would like to know what was the reason of this very great change prior to death in view of the post-mortem appearances as detailed. Was it injected with cocaine or anything of that sort? He had the other day injected a horse's foot with cocaine and morphia, a case of lameness in the off leg, but the animal remained just as lame. After a quarter of an hour he fired the splint, and he hoped the treatment might be a success but was afraid unnerving would be necessary. This, of course, did not bear directly on Prof. Wooldridge's case, except that it suggested the question as to the use of cocaine to explain he horse's strange recovery before slaughter.

Prof. CRAIG had a few remarks to make on the very interesting cases brought forward by Prof. Wooldridge. With regard to the stifle case it seemed to resemble very closely a number of cases usually described under the heading of chronic stifle joint disease. In the symptoms, however, the animal was not inclined to hold up each affected leg alternately for any length of time, such as is usually regarded as being typical of the lameness. Reference had been made to the trochlea of the femur as showing an abnormality. The specimen before him showed a thinner layer of cartilage on the inner lip, but that was a condition he found very commonly in the dissecting room and regarded as quite normal. Again, the rough margins to the articular surfaces were the usual appearances to be met with in the bones of old animals. It was certainly very remarkable in that case that although there was a considerable erosion from the tuberosity of the tibia, there was very little change noticed in the adjacent interarticular cartilages. Synovial fluid had been found in abnormal amount in the joints, but nothing had been said about the synovial membranes. These membranes lined the joints and were attached to the margins of the articular surfaces. They were covered with little papillæ and appeared to be fringed. In a chronic synovitis the membranes became thickened and the papillæ enlarged and reddened.

With regard to the case of tetanus, he had seen a number of dogs showing similar symptoms, but not presenting the same history. The cases were diagnosed as strychnine poisoning, the attacks had appeared only a short time before each case was seen, and after the exhibition of a purgative and a physiological antidote such as chloral hydrate, a rapid recovery was affected In those cases there was no complete relaxation of the skeletal muscles between the spasms.

Prof. WOOLDRIDGE said, in reply to Mr. McKenny's inquiry, that cocaine had not been used in the case of stifle lameness; there was no interference with the joint whatever, because from the commencement slaughter was suggested. He regarded the changing of the lameness from one limb to another as a characteristic of such affection of the stifle joint, in fact it had very frequently been called rheumatic arthritis. With regard to Prof. Craig's remarks in connection with the condition of the inner trochlea in the case described, there could be no doubt that the cartilage was diseased and abnormal. Of course the cartilage was normally thinner in that region than elsewhere, but it was not customary for there to be fibrous fringes. It was also too red and too much congested to be normal.

As regarded the tetanus case, the suggestion of strychnine poisoning had crossed his mind, but taking into account the history and duration of the case he had to dismiss it. The dog had been in the condition described for two days, and his experience of strychnine poisoning cases was that they did not last for so long a period. They either terminate fatally or in recovery before then unless there was continued administration of strychnine.

GLANDERS AND MALLEIN.

Mr. HEDLEY said that in endeavouring to eradicate glanders and farcy from the United Kingdom a few years ago difficulties had to be contended with such as did not exist at the present day. Clinical appearances—and those of a somewhat advanced character—were the only indications to be relied on of the presence of the disease among horses. But they had advanced since then, and to-day they possessed an agent in mallein which must be largely used—not so much in dealing with clinical cases as with occult ones—and the latter were to be feared the most in keeping alive an outbreak on premises or the disease in a country generally. They were, however, well aware that the hypodermic injection of mallein into a suspected animal was only a part of the process. There were the manifestation, to be recorded both thermometrical and systemic, as well as the local reaction, all these had to be properly weighed and considered before a definite decision could be given as to whether an injected animal was the prey of the Bacillus mallei or not.

For some time past the Irish Veterinary Department had resorted very largely to the use of this agent in connection with the detection and eradication of the disease, and its officers have taken many opportunities to become thoroughly acquainted with its results both clear and obscure. That evening it was not his intention to enter into a long dissertation as to the method to be pursued in preparation of an animal, consideration of material to be used etc., it was rather just to lay before them a few results of recent mallein testings, chiefly to show that circumstances connected with an outbreak, and conditions relating to an individual animal did not always influence each other to the extent of admitting of a definite conclusion. Some cases have warranted slaughter, but the test itself was not sufficiently definite, and indicated that further testing should be applied, probably under different conditions, or after a sufficient length of time had elapsed to admit of the first testing having no influence whatever on the second. Then, again, what appeared to have been an exceedingly definite response brought negative results when the post-mortem examination was made. In looking over the list of cases which was submitted for their information they would find the above suggestions very strongly brought out.

He wanted to impress strongly on them the following fact—that in every instance brought under notice it related to the testing of a horse which formed part of a

Consecutive No.	Description of Animal Tested.	Mallein used. Make.	Quantity	Date.	Temperature. At time of injection.	9 Hours after	12 Hours after.	15 Hours after.	18 Hours after.	Local Reaction. Measurement in inches.	Clinical condition of swelling.	Systemic Disturbance.	Observations.
1	Mare	P.	2c.c.	Oct. 14	101	102	101·8	101		*nil*	—	—	—
	„	„	„	Nov. 4	101·2	102·4	103	102·4		„	—	—	—
	„	„	„	Nov. 18	100·8	103	104·2	105		3 by 1½	Slightly painful	*nil*	Slaughtered on Nov. 24, Glanders lungs.
2	Gelding	„	„	Sept. 19	100·8	103	102·8	101·6		*nil*	—	—	Slaughtered Oct. 26; numerous glanders lesions found on p.m. in lungs and bronchial glands.
	„	„	„	Oct. 3	100·4	101·8	101·2	102·8		4½ by 4½	Diffused, and very painful	—	
	„	„	„	Oct. 23	99	101	101·6	101·6		9 by 5	Very painful	Muscular tremors at flank, and dull	
3	Gelding	„	„	Oct. 14	101·2	102·4	102	101·6		*nil*	—		Slaughtered on Dec. 11th. Lesions of chronic glanders found in the lungs, majority encysted.
	„	„	„	Nov. 4	102	102·2	102·6	102·6		*nil*	—		
	„	„	„	„ 18	100·6	103·4	103 6	102·6		*nil*	—		
	„	„	„	Dec. 8	100·4	101·8	102·4	103		5 by 4	Very painful		
4	Gelding	L.	2c.c.	Aug. 18	101	102	102	101		6 by 3	Not painful	Feeding, and looking well	Small abscess in sub-maxillary G and not attached.
	„	P.	2c.c.	Sept. 14	100·2	103·8	103·4	103·2		7 by 6½	Raised in centre, sloping to the edges, and painful	Dullness, loss of appetite loss of condition, etc.	
	„	„	„	Oct. 21	100·4	104·6	105·2	104		4 by 2	Very painful	Animal very sick	P.M. No glanders lesions found.
5	Mare	P.	„	Sept. 29	100	101·6	102·4	102		5 by 4	Painful	Not feeding, and dull	P.M. Glanders lesions not found.
	„	„	„	Oct. 21	100·2	103·4	104	104		2 by 1	Very sore	Animal dull	
6	Mare	„	„	June 10	101·4	105·8	106·4	105·4		4 by 2	Painful with corded lymphatics	Well marked, loss of appetite, staring coat	Lesions not found.
7	Gelding	„	„	June 10	99·6	103	104·2	103		2 by 1	Painful	„	„
8	Gelding	„	„	May 20	101·8	102·4	103	102·2		8 by 8	Very painful	Dull, and not feeding	„
9	Horse	M'F.	1c.c.	Oct. 21	101	101·6	103	102		7 by 2	Slightly painful	None	Glanders lesions, lungs and glands.
		„	„	Dec. 11	100·6	104·8	105	103		6½ by 3	„	Dullness	
10	Mare	„	„	Oct. 28	100·6	102·4	105	103·6		*nil*	—	—	P.M. Glanders lesions in lungs.
	„	P.	30 m.	Dec. 11	101	104·6	105·4	103·4		7 by 5	Painful	Dullness	
11	Gelding	M'F.	1c.c.	Oct. 28	100·8	104·8	104·8	102·6		*nil*	„	*nil*	Horse coughing, appeared to have cold.
	„	P.	30 m.	Nov. 11	101·4	104	105·8	106·4		5 by 4	Very painful	Considerable dullness	P.M. Marked glanders lesions in lungs.
12	Mare	„	2c.c.	Sept. 18	101	103·4	102·6	103·6		5½ by 3	Painful to pressure	Dull	P.M. Well marked lung lesions of glanders.
	„	„	„	Oct. 14	100	102·6	102 4	101·2		7 by 4	Not characteristic	Indifferent	
13	Mare	M'F.	18 m.	Nov. 27	100·6	103	103·4	103·8	104	3½ by 4	Very tender	Dullness, appetite decreased, resp. increased	
	„	B.W.	30 m.	Feb. 12	100·2	—	103	103·2	103·6	5 by 4½	Painful	Dullness and trembling	Lymphatic swellings extending from swelling on upper 3rd to low portion of shoulder were swollen and tender, pain exhibited when animal bent neck
	„	„	41 m.	July 11	100·2	—	103·8	104·6	104·6	4 by 3	Raised, sore, and painful	*nil* ...	Reacted. P.M. Definite lesions could not be found.

N.B.—In column 3, P = Pasteur. B. W. = Burroughs Wellcome. M'F. = Sir J. M'Fadyean's, and relates to particular make of Mallein.

stud located on premises whereon one or more cases of glanders had been demonstrated on post-mortem examination, and it was only because the disease had appeared on the premi-es that mallein testing had been resorted to. The cases quoted therefore were cases that had been brought under the influence of glanders so far as premises, moving of utensils, etc., about an infected yard were concerned, and one might naturally expect that almost the major portion of their animals would respond to the test.

He would like to direct their attention to the first three cases. These were all located on the same premises. There had been two or three horses slaughtered thereon, and the presence of glanders satisfactorily demonstrated. As the remaining horses were of an inferior description, and as incurring risk did not seem warranted, the local authority of the district determined to slaughtered the lot. Some delay occurred before the order could be carried out, and in the meantime an opportunity was taken, in conjunction with the local authority's veterinary surgeon, of applying the mallein test to these three animals—with the results shown in the table.

The first testing in these cases suggested freedom from glanders, and if made under other circumstances it was more than probable that the horses would be allowed to go free, but in all three cases when the post-mortem examination was made there was plenty of evidence that they were affected with the disease It will be seen that the period of time involved commenced on September 19, and finished on December 8—that is, the animals were under special supervision less than three months. It appeared quite probable that the animals may have become infected on the premises after the first test, and that it was neither the fault of the testing nor of the mallein itself that indications of disease were absent. It has been suggested that the introduction of mallein into the patient might be the means of causing the disease ; that theory was, however, hardly worthy of consideration. No case had ever been demonstrated where the disease had been introduced into the system in that way. Mallein had never been known to do any harm to a healthy animal ; the process of manufacture destroys all living organisms.

Passing on to the other cases illustrated in the table, it will be observed that in many instances glanders lesions were not revealed on post-mortem examination, although the rise of temperature and local re-action were sufficiently suggestive to give ground for suspicion. The animals, however, had not been worthy of much consideration, and it was decided to slaughter rather than incur any risk. In some of the cases the failure to identify glanders lesions was no doubt due to the unfavourable conditions under which the post-mortem examinations had been carried out. Such examinations cannot be as readily or accurately attended to in places such as fields, moors, and bogs—places unsuitable for the purpose owing to locality, conditions of weather, etc., as if at a college or other premises properly equipped—or even in so incompletely equipped a place as a knacker's yard. This appeared to him to be the case more particularly in reference to No. 13 on the list. In that instance the period between the first and last testing extended over eight months. Three testings were carried out, and in each case the result was a positive re-action, but no definite lesions of the disease were discoverable on post-mortem examination. The conditions under which it was made were, however, exceedingly difficult as regards time, place, weather, and other local circumstances—all of which militated against accurate manipulation and observation.

Discussion.

Mr. Watson felt that the observations made by Mr. Hedley were very interesting, relating as they did to a subject that had come very prominently into notice in Ireland during recent years, and he thought many gentlemen in the room could verify his statements. The mallein test must be admitted to be a most valuable help in the diagnosis of glanders, but it must be placed in the hands of capable observers. It reminded him very much of the question put by the apprentice to a master painter after looking for a long while at a picture the master had just finished : "How did you mix your paints to produce such lovely colours?" and the reply was, "I mixed them with brains." That applied very specially to the use of the mallein test. As Mr. Hedley had said, they could not take the temperature by itself, the local re-action by itself, or the systemic disturbance, but all together, and by drawing conclusions from the three. The more correctly the conclusions were drawn the more reliable would be the diagnosis. Sometimes at the first test no response was given ; at the end of the month the animal re-acted ; and the question occurred to him—Had the infection occurred in the meantime? The local re-action was of very considerable importance, but he thought it required great consideration and very careful handling. The introduction of the hypodermic needle into the muscular tissue might of itself cause inflammation, and the consistence of the local re-action should be considered. In glanders there was a firmness—a solidity—to the touch ; the result of local inflammation was of a softer character, and gave one the idea of an emphysematous condition. Another guide was that in a case of glanders the local re-action was generally accompanied by swollen lymphatics radiating from the swollen parts.

He considered that there was very great difference in the quality of the various makes of mallein issued—no one knew better than he did as to that point. He remembered one case very distinctly—a typical case of glanders—in which he had used the Liverpool mallein, and there was neither temperature nor local re-action. He left the case over for three weeks, and then tested with German mallein, and got a very pronounced local re-action, systemic disturbance, and rise of temperature.

Another point that made the greatest possible difference was the *freshness* of the mallein. It should not be long in stock in the maker's laboratory, nor long in the possession of the veterinary surgeon.

It was really extraordinary how different were the results of testing with the different makes of mallein at their disposal, and he would like very much to have an explanation. In acute cases he found the re-action much greater than in chronic cases ; in the latter the lesions may have become encysted, and there was little re-action.

Mr. Carr would like to ask Mr. Hedley what in his opinion was the best mallein to use. With regard to Mr. Watson's references to the nature of the local inflammation after hypodermic injection, he thought they were more of an œdematous nature. As to the cases referred to by Mr. Hedley where no lesions were observable in the case of post-mortem examinations made under difficulty—as described—he would like to know whether any further examination was made elsewhere and under better conditions.

Mr. McKenny thought that after what they had heard from the various speakers that evening it might be concluded that mallein was by no means the infallible test that some represented it to be, but he did not imagine that Mr. Hedley, for an instant, meant anything of the sort. The points to be emphasised were that practitioners required to have a thorough knowledge of what they were doing, to pay particular attention to the mallein used, and to exercise great care in summing up the results of the test before coming to a definite conclusion. In olden times, before the mallein test came to be adopted, he had considerable experience of glanders—in fact, probably more than any one present—

but as far as the mallein test was concerned he admitted that Mr. Hedley had more opportunities of judging of its merits. He thought he (Mr. Hedley) could show that it was a test to be depended on, and it would not do for the impression to be circulated that what had been said that evening was in condemnation of the value of the test. All that had been said should be taken in the proper spirit—in the spirit in which the experiences had been laid before them, but the test should not be taken as infallible. It had been stated that by frequent application of mallein and tuberculin for the respective diseases for which they were utilised as tests they acted absolutely as a cure, whereas Mr. Hedley's charts shows the reverse.

As regards re-acting horses not showing glanders lesions on post-mortem examination he would like some explanation. Perhaps Professor Mettam might explain. It may have been due to the circumstances—open fields, etc.—under which the examinations were made. There was a great difference between the hurried post-mortems that country practitioners had to make and those carried out in places equipped like a veterinary college.

As regards fresh and stale mallein, he understood that as long as it was bright and clear it was so far sufficiently fresh and reliable. Perhaps some further information might be forthcoming on this point.

There was one remark he had not understood—perhaps he had not heard aright. He thought it was Mr. Watson who said that in using the hypodermic syringe inflammation might be caused by the needle puncturing the muscle. For the life of him he couldn't see how such an accident could occur. He always raised the skin, and it would be impossible. Furthermore, he now always introduced the needle first and then attached the syringe, and he never broke a needle or had any difficulty.

Professor O'CONNOR presumed that the needle used had always been boiled first. He could not understand how an aseptic needle could cause inflammation.

Captain PALLIN would like to make a few remarks. His first experience of mallein testing had arisen in India some seven or eight years ago, and was in connection with an outbreak of epizootic lymphangitis, before they had discovered what disease they were dealing with, the animals presenting ordinary clinical symptoms similar to glanders. The mallein used was Pasteur's. A certain number of the horses tested gave a re-action, but on post-mortem examination he was not satisfied that the lesions found were those of glanders. This was in a remount depôt, where there were some 500 or 600 animals (horses and mules), and the outcome of it was that he was instructed to test every animal in the depôt, some twelve or fifteen giving a distinct re-action. He had not much previous experience in the use of mallein, and in addition to the printed directions supplied, had only the articles by Mr. Hunting and Professor McCall, which had been recently published at that time, to guide him in coming to a decision as to what constituted a re-action. These re-acting horses were set aside; they were in perfect condition and showed no clinical symptoms whatever. He got instructions to re-test, again with Pasteur's mallein, and the majority re-acted a second time. On the third testing he was supplied with McFadyean's mallein and not a single one re-acted. He therefore concluded that the kind of mallein used made a certain amount of difference. Since coming home from India he had tested a large number of horses; in fact, every horse coming into the service is tested now and with McFadyean's mallein, and he had not had a single unsatisfactory re-action. However, that may have been a coincidence. It went without saying that one should take into consideration, not only the variations of temperature, but the local re-action and systemic disturbance as well. All three should be carefully considered in conjunction. Antiseptic precautions should always be scrupulously attended to, and the mallein should be fresh and pure.

Prof. WOOLDRIDGE was very much interested in the discussion, particularly as regards Mr. Hedley's cases. The case which struck him most was the one in which, if he recollected rightly, there was no reaction, and that the horse was tested simply because it was on premises known to be infected. It was tested a second time, and then a third time, and at last it then reacted to the mallein. He thought a probable explanation might be that the horse was not infected at the time of the first testing, and that it subsequently became infected and reacted at the end of the month. He thought that possibly the same explanation might apply to the case quoted by Mr. Watson, where he used one make of mallein without reaction, and three weeks later using another kind he got a reaction. Probably if he used the same make of mallein the second time there would then have been a reaction as well. Much reference had been made to the nature of the swelling. They very often got swelling which was by no means a glanders reaction. In the latter there is generally a very considerable amount of pain, in many instances the horse will flinch or shrink away even before one touches him, whereas if the swelling were due to some slight irritating material they got a swelling, generally speaking, which could be manipulated without causing any inconvenience to the patient. One explanation of local swelling in a healthy horse might be that the mallein contained a certain amount of carbolic acid which acted as a local irritant, which was more noticeable in some horses than in others. Too much attention could not be paid to the exact nature of the swelling; as Mr. Watson aptly said they should "mix their mallein with brains."

Mr. HOLLAND asked in what way they were to satisfy themselves that the mallein was fresh. He thought the makers should have the date on which it was manufactured printed on it. With regard to wounding the muscular tissue in using the hypodermic syringe he asked Mr. McKenny did he not sometimes experience a little difficulty in detaching the skin in a favourable direction on the necks of some animals.

Mr. MCKENNY replied that he easily detached the skin and that he operated on the neck. Of course an assistant always held the syringe and handed it to him when required.

Prof. METTAM said they had had a very instructive paper by Mr. Hedley—one that appealed to all of them who were interested in the mallein and tuberculin tests. A horse not clinically glandered may recover from the lesions, and the latter becoming sterile no reaction may be noticeable on a second testing, though the results of the first testing suggested the presence of glanders. He also, with Prof. Wooldridge, took a note of Mr. Hedley's case where the tested horse showed no reaction the first time, gave negative results the second time, and on the third testing indicated reaction. He thought the lesions had developed from the infection which had occurred between the dates of injection.

Perhaps sufficient had not been said as to the age of the glanders lesions. If the lesions are old an animal may not respond. In the cases referred to where an animal gave very decided response to the test, though on post-mortem examination no lesions of glanders could be found, his experience, at all events, was that they might conclude that the lesions had simply escaped discovery. Glanders was essentially a disease by ingestion, and the lesions were very often to be found hidden away in some remote mesenteric or similar gland. The same thing occurred in the case of tuberculosis. He considered Mr. Hedley's remarks on this point very valuable, as mallein reactions were often a puzzle.

Mr. HEDLEY had derived much pleasure from listening to the discussion, and he felt amply rewarded from any little trouble he had taken in connection with the pre-

paration of the paper by the reception that had been given to it that evening. He quite agreed with Mr. Watson that the mallein should be fresh, the more active it was the more reliance could be placed on its results. He might say, however, that he had used mallein which had been in his possession for upwards of eight months and had got excellent reaction—the post-mortem examination confirming the result—but he had not got that mallein on a shelf exposed to light or change of temperature. It was kept always in the same place, in the same temperature, and in darkness. All this assisted in keeping it in good condition, in fact it was merely following the directions issued by the maker. It was the same in all scientific processes, photography for example, the maker's directions should be carefully followed or the best results would not be secured. Nevertheless, even granting all this care be taken, it was always better, in his opinion, to use mallein as fresh as possible.

With reference to the omissions to give any account as to preparation of the patient or advice as to holding of the neck, manipulation of the syringe, etc., it should of course be understood that he took it for granted that everything would be correctly attended to up to the time of taking the temperature. His remarks were confined mostly to a description of mallein reactions and the conclusions to be drawn from them. He reminded them (in reference to the reactions appearing on a second test when the first showed none) that sometimes infection might arise not through contact with an infected horse, but owing to the presence of infective material in the stables on account of their not having been properly cleansed and disinfected, therefore that was another point which should always be taken into consideration when dealing with outbreaks of glanders.

Mr. CARR would like to let Mr. Hedley know that the reason he asked the question as to whether any further examination was made was because when once a horse was slaughtered on account of its having reacted to the test a suspicion was left on the premises concerned.

Mr. HEDLEY said that the cases he had described had been on premises known to be infected, and they were horses that had been condemned and were to be slaughtered, and they took an opportunity of making special notes in connection with them.

He had been asked as to what make of mallein had been found most reliable. Well, taking everything into consideration, and without wishing to exalt that particular mallein to the detriment of any others, he considered they had found in the Department that the mallein obtained freshly from Sir John M'Fadyean gave the most satisfactory and reliable results. Messrs. Burroughs Welcome & Co. had also placed on the market a very reliable mallein, easy to manipulate, and giving excellent results.

Prof. CRAIG reminded the meeting of the lateness of the hour, and that his friend, Mr. Howard, had some interesting cases to lay before them. He did not think, however, that sufficient time remained either to record these cases or to do justice to them by discussion. He accordingly proposed that the cases and seconding of the discussion thereon should be postponed to the next general meeting—say the April meeting.

Mr. HOWARD consented to this arrangement under the circumstances.

Prof. METTAM, in a few words, placed before them an interesting specimen—the liver of a dog—on which he had made a post-mortem examination. The dog in question had died while under Mr. Bradley's care, and after death he had kindly sent him into the college. The liver was 10 pounds in weight. In addition to the lesions in the liver—as shown—there were lesions in the pancreas. The cells formed in that case took on the form of tumours, plugging the passages and glands; and the lymph and blood capillaries were very much distended and filled with cells of endothelial origin, involving both pancreas and liver. He was not familar with endothelial lesions originating in the pancreas. He thought they would like to see the liver, which was of enormous size, although taken from a retriever.

After a vote of thanks to the Chairman (proposed by Mr. Howard) the meeting adjourned until January, 1908.

THE CENTRAL VETERINARY MEDICAL SOCIETY.

The Ordinary General Meeting was held at 10 Red Lion Square, on Thursday, December 5th. Mr. J. Willett, the President, was in the Chair, and the following members signed the attendance book:—Messrs. W. Perryman, W. S. Mulvey, H. Lomas, Wm. Roots, Capt. C. H. H. Jolliffe, Herbert King, Alexander A. Johnson, W. D. Wallis, Major E. R. C. Butler, Ainsworth Wilson, James Rowe. G. H. Livesey, Prof J. Macqueen, Geo. Upton, William Hunting, Percy S. Howard. A. E. Willett, N. Almond, J. B. Hare, P. Woodroffe Hill, R. Porch, W. L. Harrison, Arthur L. Wilson, T. M. C. Hunt, R. J Foreman, Fred G. Samson, Geo. C. Lowe, A. Rogerson, A. E. Bayley, W. Roger Clarke, W. Reekie, C. Herbert Sheather, Ralph Bennett, Henry Gray, W. Wadsworth, R. F. Wall, and Hugh A. MacCormack, Hon. Sec., and as visitors A. H. Berry and J. H. Bennett.

On the proposition of Mr. MULVEY, seconded by Mr. WILSON, the Minutes of the previous meeting were taken as read, and confirmed.

CORRESPONDENCE.

Letters and telegrams regretting inability to be present were received from Lt.-Col. Moore, Messrs. Urquhart, Perry, Shipley, Lionel Stroud, and Sidney Slocock.

The SECRETARY exhibited the photograph taken at the Dinner, and also showed an oxydised silver shield mounted on oak, representing the arms of the Royal College of Veterinary Surgeons, that had been sent to the Society by Messrs. C. H. Huish.

On the proposition of Mr. MULVEY, seconded by Mr. LIVESEY, it was agreed that Messrs. Huish's communication should lie on the table.

ELECTION OF FELLOWS.

The following gentlemen were ballotted for and unanimously elected Fellows of the Society: Mr. Walter Burt, of Brighton; Mr. T. J. Angwin, of Arundel; Mr. F. W. Chamberlain, of Wimbledon.

It was decided that the next meeting be held on the second Thursday, *i.e.*, January 9th.

"COLIC."

Address by WM. HUNTING, F.R.C.V.S.

This is described as a paper, but I have not written a paper, and merely present you with a few notes upon the subject. There are many authors who seem to know something about the disease, and I have thought when I read them that I knew a good deal about it, too, but when I get into the loose box alongside a case, I generally find I am wrong. I bring the subject forward to-night to see if, from the collective wisdom of the Society, we might be able to arrive at any better treatment of one of the most common and fatal diseases of the horse.

I define colic simply as signs of abdominal pain, and I should like to limit the use of the word to such pains as are caused by gastric or intestinal conditions, excluding all cases of hernia, renal or cystic disease and diaphragmatic or peritoneal affections. This simplifies the subject a little, but leaves a vast field for much discussion, and probably some bewilderment.

As to causes, on several grounds I feel safe in stating that food, work, and parasites are causes of colic, but

practitioners are not at one in accepting these active agents in the production of colic. Food, when innutritious and coarse, may cause colic, and yet we see the horses and donkeys of the poor existing on little else than the most innutritious food without ever having an attack of colic. Hay, even good and clean, gives rise to colic, when used too soon after stacking. I have myself seen many cases of colic in studs where new hay has been used, and the disease ceased on a change of hay. Maize, although generally a good food for horses, occasionally produces a small endemic outbreak of fatal colic. I may mention that the maize presents no change in colour, appearance, or characteristic of any kind; the smell is perfectly good, and the grain is hard, and yet when it is used you have fatal colic in numbers of animals, and the post-mortem lesion is generally a collection of fluid fæcal matter throughout the whole intestinal canal, of the colour of maize. That is some form of maize poisoning which I recognise but know nothing more about. Change the maize and the disease ceases. The remarkable thing about it is that it is generally the largest and best horses and best feeders that suffer most, simply, I take it, because they eat a bigger dose of the poison than the others.

Even good food consumed in inordinate quantities may give rise to colic. Irregular feeding, especially with too long intervals between food, predisposes to colic, but I think it is as common in horses supplied with nosebags as in those fed in the stable alone.

Cold water is often blamed for exciting an attack of colic, but I rather doubt the correctness of that accepted observation. Prolonged abstention from water I believe to be a far more common cause and one that produces perhaps more fatal attacks of colic than all the other causes put together.

Work is certainly a causal influence, as was long ago pointed out by Col. Smith; probably 90 per cent. of cases occur at work or immediately after return from work. Work causes increased peristaltic action of the intestines, and increased peristalsis probably plays a large part in cases of twist.

With regard to parasites, I do not feel certain that the ordinary round worms ever cause colic. If it be true that they may give rise to perforation of the intestines, then we must accept them as a potential cause. I think the oxyuris may be a cause, though I have really only one case upon which to base that statement. I remember a most violent and rapidly fatal case of colic, in which I found on post mortem nothing to account for the disease except a dark coloured mucous membrane in the colon which was literally alive with a layer of these parasites, but I have sometimes thought that they might have had nothing to do with it, and that possibly I overlooked an accidental case of arsenical poisoning.

There is another parasite, the strongyle, found in mesenteric aneurism, and I am inclined to view that as an extremely dangerous cause of colic. In very few cases of twist is this parasite not to be found. Against that you may put the fact that the occurrence of these aneurisms is not uncommon in horses that die of all sorts of other diseases; they are found pretty frequently in dissecting room subjects that did not, as far as one knows, suffer from colic.

Symptoms.

As to the symptoms of colic, it is almost unnecessary in a roomful of practitioners like this to say anything about them, but I have a reason for doing so. Horses suffering from colic show all sorts of symptoms, and I know no rule by which you can put these symptoms down to the exact changes taking place in the abdomen. Pawing is a very frequent sign of colic, and it is seen, as far as I know, in every case of colic, whether in the large intestine or in the small intestine. Lying down is seen in all sorts of cases of colic. It seems to me that the horse that throws himself down does it not on account of the violence of the pain he is suffering, but from his own innate cussedness. Rolling is a symptom about which there has been a good deal of discussion. Horses have been tied to a post to prevent them rolling, the idea being that the rolling gives rise to twist of the intestines. Personally, I have a strong opinion that it has no action at all on the form of twist.

Then horses get up on their hind quarters and remain on their knees, and also do the opposite thing, sit on their haunches like a dog. What exact form of colic it is that makes a horse keep his hind quarters higher than his front ones I do not know. I have seen post-mortems of horses that have sat on the haunches which led me to believe that that position makes the horse feel easier, and I have seen it in nearly all cases where the stomach and large intestines were impacted with a large mass of food. Probably the explanation is that the animal accidentally finds himself in that position and stops there; he gets on his front legs first and stops in that position feeling a little easier. One can understand that the large heavy intestine in that position would press less upon the diaphragm and lungs than in any other position.

Vomiting used to be looked upon as an infallible sign of a ruptured stomach, but probably most of us have seen cases in which the animal has recovered after vomiting, and we know also it is only over-distension of the stomach, straightening out the mucous membrane, preventing a block at the cardiac opening, which permits the passage of food to the œsophagus.

Tympany is common in nearly all conditions. I look upon it as an extremely bad symptom, and I suppose really because it is always found in twist of the small intestines or of the large intestines. I am not able to diagnose myself the position of the impaction from the tympany, although I believe some practitioners are a little more acute than myself. It may be that you accept—I do not—that distension of the stomach produces the appearance of a distension of the body forward. I have never yet been able to diagnose a case alive and to say where was the exact position of the distension. Straining I take to be a bad symptom. If a horse strains against enemas and rejects them at once, it is an empirical thing to say, but most of these cases die. If also you have a case where on introducing your hand into the rectum the horse strains against you and you are absolutely unable to get it much further than your elbow, that also for some reason is a fatal case. I practically carry out the advice to examine all these cases per rectum, but in a case like that you cannot examine anything; all you get is straining against you.

The pulse is a symptom that I think does afford some guide, but only a guide between two conditions that many other things suggest to you—between the really bad case that is going to die and the one that might get better. If the pulse is soft and compressible, and not over 40 or 50, I always think there is a chance for that horse. As soon as ever a pulse becomes hard, feels like wire and rises to over 70, the case nearly always dies. Respiration, I think, offers very little assistance. In some cases between the intervals of pain the horse breathes pretty comfortably, as he does in all sorts of cases. A nervous excitable horse with very little pain and only a mild case stands and blows as if he had lung affection. All of us are wise after the event, but when the horse gets a short catchy respiration—well, the diagnosis is death.

Sweating is a symptom seen in many cases. Violence and excitement produce sweating, and if it is general I do not pay much attention to it as long as the temperature is kept up in the extremities; but patchy sweating,

or sweating to the extent in which water rolls off the animal, accompanied by cold ears and cold legs is another sign of death.

As to rectal examination, I have said that one derives in some cases information, and in others no information whatever—except that straining is a bad sign, a sign that enables you to confirm a prognosis which is generally right if you predict death. When you can examine really per rectum and get your hand fully in, you can probably tell whether the large intestines are impacted with food or not, and that helps to guide you a little. It does not follow that when the large intestine is full of blood there is not a twist as well. However, if you could find an impacted intestine it would suggest—other symptoms being understood—that you might use treatment for the evacuation of the intestine.

There is a difference in the pain shown by animals. Some of them show continuous pains and others remittent or intermittent pains. The continuous pain may be found at the commencement in a case that recovers, but continuous pain that lasts over an hour is, I think, a sign of a fatal case. Remittent pains have never helped me to diagnose the lesions that I find on post-mortem. The duration of pain is not much help. If a horse is in continuous pain for four or five hours he generally goes to the knackers, and if he is in pain at all for six hours, 90 per cent. of such cases die and you do not know why until you make a post-mortem.

Now, there is a collection of symptoms that cover pretty well every class of colic that you can think of; they occur, I was going to say, some of them sometimes in one and sometimes in another. How are you going to differentiate? I have made a rule to have a post-mortem on most of my cases of fatal colic, and I am sorry to say that quite as often I find something I did not expect as I find that which I hoped to find. When you make post-mortems you find a whole series of lesions and changes just as with the symptoms during life. One would like to be able to fit the symptoms into the lesions, but I am not able to do so. One of the most common post-mortem conditions is to find an overloaded stomach and an overloaded colon, and my own experience is that if you have an overloaded colon you nearly always have an overloaded stomach with it. In other cases you wonder why the horses die. You find the whole of the contents of the large and small intestines fluid, so fluid that they could pass easy enough—no mechanical obstruction to their passage, and very little inflammatory change to be found in any of the mucous membranes. I suppose it might be argued that a case like that was one of spasmodic colic. I am inclined to think that the term "spasmodic colic" is founded absolutely on a theory. No post-mortem examination will show a spasmodic condition of the intestines; it passes off when the animal dies. But it is handy, it is one of those terms which disguises one's ignorance and apparently accounts for something not otherwise to be accounted for. I think as a rule the small intestines nearly always are full of gas, and not once in a hundred times do you find more than a few handfulls of solid food in the whole length of the small intestine. Discolouration of intestines is found frequently, and, although this is a shameful confession of pathological ignorance, I do not think I can distinguish a number of discolourations and tell you which is inflammatory and which is not. I find a colon with a mucous membrane an inch thick and a sort of gelatinous infusion between it and the other layers of the intestine, and I call that inflammation. I find another colon where the membrane is not thickened very much, but is blacker and darker coloured than the other, and I do not think that that is inflammation. Again, if you have a twist you must have congestion behind it I suppose, and in the large intestine you can have a twist which, if it is not replaced during life is replaced by the horse slaughterer in getting it out, and you are no wiser. You do not very often find a really definite line of demarcation between the discoloured portion and the healthy coloured portion. I am inclined to think myself, arguing from my own personal ignorance, that a number of us have many a time mistaken a case of half twist of the c lon on making a post-mortem for inflammation of the colon. In the small intestines there is less doubt; for if you have a twisted small intestine, as soon as the abdomen is cut open three or four purple coils face you. Only once have I seen a case where the twist was on itself. The mesentery was attached to the spine and the coils of intestine were just twisted on themselves and were easily undone. The next one I saw had exactly the same appearance, so far as discoloration was concerned, and after spending half an hour in drawing the intestines first one way and then another, I failed to undo the twist or discover how it was made. The fact is, it is very difficult with the ordinary post-mortem, seeing how the horse slaughterer pulls the things out and upsets them and ruptures them. Are not a lot of discoloured intestines simply due to the blocking of the arteries by portions of an escaped blood clot or a mesenteric aneurysm? I really think that a number of them are, and also that a number of the discolourations of the colon are traceable to the same cause.

The twist of the colon is another puzzle. One of the last post-mortems I made on a horse that died from colic had the bend of the c lon, which ought to have been near the pelvis, doubled over, and not only in the diaphragmatic region, but so firmly attached to the diaphragm by effusion that the horse slaughterer had forcibly to tear it away. There were no particularly definite symptoms about that horse except of ordinary colic.

I had formed an opinion up till very recently that you never have these twists occurring except in a horse in work. I saw a very violent case of colic, and I told the owner, in talking the matter over, that I did not think it was a twist, as the horse had been in the stable for the last three or four days. I told him I did not think there would be a twist of the large intestine of a horse not at work, but the post-mortem examination showed that it was a twist of the large intestine. It is a fortunate thing for a medical man that all his cases of appendicitis do not go to the horse slaughterer.

There is no necessity to refer to the mesenteric tumours which incarcerate portions of intestine, because we are not expected to diagnose them. There are very curious strictures of the intestines. I remember Mr. Albert Wheatley sending one to this Society some years ago where a flat b nd in the small intestine divided it for about 6 inches into two different compartments, one of them a little larger than the other. It was not diagnosed, but it killed the horse.

Ulceration, I think, is very uncommon in horses. The last case of ulceration of the stomach I saw was in a horse that had violent colic for about 6 or 8 hours, and we diagnosed it as a twisted small intestine. When it died we made a post-mortem and found nothing except a little redness of the mucous membrane of the stomach and four ulcers, the largest patch being the size of a sixpence and the others very much smaller, the smallest being the size of a pea. It almost appeared to be a case of arsenical poisoning, and my colleague took a bottle, had it filled with whisky and put in the excised diseased portion of the stomach. The case was forgotten for quite 6 months, when my friend came to me and said: "You remember that case of So-and-so's with the ulcers in the stomach? I put that bottle in the surgery and forgot it. To-day I found it, and thought I would just see if there was any arsenic in it. I tested the fluid in which the bit of stomach was, and I found it to be a strong solution of arsenic."

Occasionally you find a perforation of the small intes-

tine, and the question has arisen whether those perforations are due to worms or not. There are generally worms in the intestines, and it may be argued the worm does it. I am very doubtful about it. My friend, Mr. Willis, has come across one or two cases of perforation within the last 12 months that I have never seen described, and Mr. Shaw, who attends at King's Cross, has looked for it and finds the same thing occasionally. There is a perforation in the upper surface of the small intestine in between the two layers of the mesentery, and gradually the food collects, and in some cases you have a handful of fæcal matter, in some many handfuls, distending the mesentery. In one case Mr. Shaw had a triangular piece of mesentery distended, measuring 12 inches in one direction and 6 inches in the other. It is difficult to account for perforation like that. I do not know whether worms do it or not, but a very small perforation in that position when food passes through leads to colic and death.

Probably all of us have seen horses die after showing two or more of the symptoms I have mentioned, and we have made post-mortem examinations and have found some of the lesions referred to, but the revelation was usually not what we expected. I confess, not cynically, that I cannot diagnose colic with any certainty. I have expected a calculus and found only fæcal impaction of the colon. I have felt quite certain of a twisted small intestine and found an inflamed colon. Without some definite diagnosis how can we treat a case? If I have employed eserine and found on post-mortem twisted intestine I feel rather ashamed of myself, and sorry for the horse, but I am quite unable to say when the thing is present and when not unless I can diagnose the exact condition. If I have been content with sedatives in the treatment of a case and find on death an impacted colon then my humiliation is only equalled by my vexation. If the average veterinary surgeon is not more intelligent over colic cases than I am, then I think it not unfair to say that that disease is an opprobrium to the veterinary profession. It is a condition deserving systematic research. Half the horses over 6 years old that die in London die of colic, and the loss must be a very heavy pecuniary toll upon the owners. Surely the disease is worth research and mastering.

The questions I desire to raise to-night are two—(1) What are the causes of colic? I should like to get that definite; because if we knew that probably we might do a great deal in prevention. (2) How can we differentiate the various conditions? Until we do that our treatment is absolutely empirical, and possibly such as to make the animal a good deal worse, and the case more fatal than it otherwise would have been.

Discussion.

Mr. Almond regretted that so much ignorance in connection with such a very common ailment existed. There was one omission in Mr. Hunting's remarks, namely, the mode of treating cases. It was necessary to deal with cases as they arose, and if it was not possible—and he was obliged to confess that in many cases it was not possible—to puts one's finger on the exact condition, the case had still to be treated. The term "colic" was not confined to troubles in the intestines, and it was not possible to eliminate peritonitis. There were a series of cases in which there were intermittent symptoms, the pulse probably very little altered, and little or no elevation of temperature; during the intervals of pain there would be increased respiration. On auscultating the abdomen the peristalsis might be heard. In his opinion the majority of cases of that description recovered. With regard to the others, it was probable that no case succumbed to the effects of spasmodic colic. When death followed there was always some other condition. He had come across cases similar to those referred to, in which there was no apparent cause for the death, but he did not think it would be right to attribute death to spasms of the intestine. He believed that spasmodic colic was a very real thing, and a thing that usually occurred after work, and he regarded it as the result of exhaustion in 19 cases out of 20. The imbibition of large quantities of cold water when animals were in that condition was very likely to set up spasmodic colic. In cases in which there was no evident cause of death, the inference would seem to be that death was due to some form of septic poisoning, and Mr. Hunting himself had given a case in connection with maize. The reference in the paper to perforation of intestine between the folds of the mesentery was most interesting. He could not conceive perforation occurring except by means of parasites. The wall of the gut would be more easily perforated where not covered by the mesentery. In as much as the contents of the intestines always contained septic germs, any fæcal matter that passed out into the fold of the mesentery would sooner or later result in death. He had met with another condition, cases of embolic colic in young animals, and in animals of more mature years. There was no doubt that many cases of death from so-called colic was due to such conditions. The emboli were due probably to the effect of parasites, but whether due to parasites alone was doubtful. In all probability it was due to arrest of the inflammatory material of an aneurysm which had separated and interfered with the circulation in the vessel. In a case he had quite recently seen the animal showed signs of pain overnight, and when he when he saw it in the morning its temperature was 104, the heart rapid, and the pulse being above 100. The animal was not abnormally full. He refused all food and drink, but was very fond of putting his nose into the water and shaking it very violently. The peristalsis, although not very marked, was distinctly audible. That went on for four days. Fæces in small quantities were passed in an apparently normal condition. The animal died on the fourth day, and on post-mortem about a yard and a half of the small intestine was found like an india rubber tube; the walls were œdematous and thickened, and more or less gangrenous on the mucous side. There was no doubt that condition had existed through the whole illness to a greater or less extent, and peristalsis evidently went on in the large intestine. In that case death was no doubt due to septic poisoning. In regard to large round worms, he had no doubt himself that they were frequently the cause of colic and of death. He had had a number of cases in which impaction was undoubtedly caused by the worms, some of them amounting to half a peck or more. Although in small quantities, the worms may be of very little consequence, when they were in large numbers they deserved very careful attention. With regard to rolling, it was cruel to keep a horse standing when he desired to lie down, especially when he was exhausted and in pain, and rolling tended to assist the animal. Proper care of course should be taken to prevent any injury. He agreed that tympanic colic was one of the most serious things to be dealt with. No doubt the trochar was much more frequently used now than it was in previous years, and he believed it was a very important aid to recovery in cases of acute tympany. He should never hesitate to use it under proper antiseptic precautions. With regard to differentiation, that was very difficult, if not impossible in most cases, and he did not think it was a matter of very great consequence. In all cases of colic he gave an ounce of chloral hydrate, and if the animal was not better in two hours gave another ounce, and that helped him to differentiate. Nine cases out of ten recovered, either in consequence of that treatment or in spite of it. If the symptoms were not relieved by a second dose he took a more serious view of the case. Where there was no fullness of the abdomen he preferred to give a mild laxative—a pint of oil, or a series of

doses of magnesia sulphate—of which he had a very high opinion, believing it to be the best febrifuge for a horse, and it was laxative in repeated doses. He had never known any harm occur from giving 4 oz. of Epsom salts every six hours in such cases. He had been rather fearful of giving aloes except in cases of impaction.

Mr. UPTON thought colic was due to dietetics. The best prevention of colic was to vary the feeding according to the season of the year. At present the numerous horses he attended were being fed with clover mixture, oats, maize, and beans. He had cases of colic starting about the beginning of October and he at once changed to more maize and beans, and the cases ceased. About the end of February he should go on to clover mixtures and knock off some of the maize and beans and give more oats. In the summer time he put them on soft meadows and oats. If he gave maize and beans in the very hot weather, the animals had colic. A large contractor who was cutting his own chaff, and feeding on soft chaff and oats, consulted him in regard to colic, and he suggested he should make his chaff a little harder with straw or go on to clover mixtures. On looking at the chaff he discovered it was sweating, and he advised that means should be taken to prevent this by covering the chaff with chopped straw, and that advice had been succe-sful. Many cases of colic could be traced to the mouldy hay which some men used. Drivers also were responsible for cases, especially by stopping about at public houses and allowing the horses to take cold, or driving a long distance without giving a horse water. In some cases he thought colic was constitutional, because some horses were for ever having the disease. Diet went a great way in the prevention of colic. Horses should not be fed on Sundays as they were fed on working days. He investigated several cases two years ago, where the horses were dying very quickly from colic, and he could find nothing to account for it. The knacker said it was stoppage of the bowels. While in a stable a horse that was just going out fell down on the slippery ground, and he was told that most of the horses slipped there, five or six going down in a day. He advised a new paving to be put down, and they had no more colic. Anything in a state of fermentation was a frequent cause of colic. He had seen three horses worth £40 each lying dead round a clover haystack which was being made, because the men had taken them up to the haystacks during their meal times, allowing them to eat a large quantity of it. Sudden change from cold weather to hot weather produced colic cases. There was another kind of colic very fatal that occurred in horses turned into the grass at the beginning of the spring. One bad symptom not mentioned by Mr. Hunting was when the horse got on its back to obtain ease from pain. The old-fashioned practitioner, it seemed to him, was right in calling colic stoppage, because if the bowels could be got to operate the disease could be treated very well. He considered auscultation one of the most valuable things to be used; if the bowels could be heard moving the colic as a rule was going to be relieved. If Mr. Almond waited 5 or 6 hours before he gave a dose of physic, he thought that was too long.

Mr. A. JOHNSON thought colic was more often due to injudicious time of watering than to feeding. Some years ago, in the West End, he attended constantly a very large brewery stud where they used to lose a great number of horses from colic, some dying with twist and some with rupture. He found that the fatal cases of colic were in horses that had gone on journeys with no regular feeding or watering. In horses fed at home and watered before they were fed there were not very many cases of colic. With regard to rectal examination, that was very necessary, and some years ago it was very much impressed upon him. A little mare was brought into the infirmary very bad with colic, and he examined her per rectum twice. There was great straining, enemas rejected, but nothing beyond that. She died the next day, and on post mortem was found, within easy reach of the rectum, a calculus as big as a man's fist, perfectly round and easily removable. Had rectal examination been persevered in this might have been found in life. Barium chloride was used largely in America, and he should like to know whether anyone had had experience of it in this country. With regard to aloes, he usually gave a dose, and he was not all certain that it increased the animal's pain in fatal cases. In most cases he gave a physic ball, and he thought that was very good treatment.

Mr. FOREMAN thought barium chloride was rather untrustworthy; it acted on some extremely well and had no effect on others. He had had best results in conjunction with chloral hydrate. A horse then seemed to suffer very little pain, unless there was a twist. In one case the horse had 38 motions between 11 at night and half-past 9 next morning—that was with a 2-dram dose per orem. It was more reliable injected intravenously. The cause of twist was most difficult to discover. He was called one day to a case and found both horses of a pair affected with colic. One of them died from a twisted gut and the other got better. Why did they not both have twisted guts or both get better, they had been under exactly the same conditions? With regard to round worms, knackers' men said they noticed that every case of twisted small intestines had those worms present.

Mr. GRAY thought colic was due to an irritant, and that it did not matter whether it was produced by bacteria, drugs or ischemia. He agreed that regular feeding of horses was most important in its prevention. Colic was principally due to irregular feeding and over work, and the horse not getting a sufficient amount of water at the proper time. He agreed with Mr. Hunting in what he had said about giving horses cold water. With regard to embolic colic it had been discussed for many years since the important researches of Bollinger, but he did not think embolism by itself was a great cause of colic, otherwise it would be found in a greater number of horses especially the lighter bred animals. The majority of horses suffered from intestinal aneurism. He had seen the artery completely plugged with a cheesy embolus and no colic. Some experiments were made on the Continent of tying the vessels, but that did not induce colic. Twist he thought merely a result. Perforation he had seen several times in a horse, and it was very puzzling as to how it was produced. When there was a small perforation, the horse as a rule assumed the lateral recumbent position with his legs at right angles, and might lie three or four days in that position. There was generally a good deal of sweating and quick thoracic breathing. With regard to treatment, with the use of eserine, pilocarpine, barium chloride, or arecoline, if it was a curable case, the horse could be at work the next day, whereas with a dose of aloes he would not be at work for three or four days. If the treatment assisted in shortening the existence of the horse, so much the better, because it terminated his suffering. He had had a lot of experience with barium chloride until a year or two ago, when he gave 30 grains to a horse and he died in about 5 minutes. If given in small doses it was a very useful thing. He thought the best treatment of all was to use either arecoline hydrobromide, or eserine and pilocarpine combined which not only caused peristalsis but brought about an inflow of mucus to the intestine. As to worms, very few horses would be found without them. He did not believe it was the worms that caused colic. When he was a student at the R.V.C. he saw several young horses from the Shire Horse Show die of pneumonia. The post-mortems were made by the late Prof. Robertson, and in some of the cases there was nearly a bushel of worms in the stomach, but the horses had not suffered from colic. With regard to oxyurides being a cause, two horses of his own passed enormous

quantities and got all right without any treatment, and kept in the pink of condition. He thought the worm cause was bunkum. He had made thousands of post-mortem in many species, even in frogs, mice and birds, and found very few of them without worms.

Mr. LIVESEY said in his experience the larger proportion of colic cases occurred at night, and that, he thought, was due to over-work. His firm's practice was chiefly connected with hunters, but they had one contract where the horses were used for general purposes, mostly for drawing four-wheeled vans driven by men who knew very little about horses. They also had a client, a contractor, who dealt in everything, including hay and forage, and what he could not sell—what was absolutely too bad even for the poorest man to buy, that he fed his horses on. Those two firms supplied him with ten times the number of cases of colic than came from the whole of the rest of the practice. In the case of the first contractor, the horses were under an excellent horsekeeper, the forage the horses received was of the very best, and they were extremely well cared for. Cases of colic in that establishment invariably came on between half-past seven and twelve o'clock at night, the horse having come in from work between six and seven. When called, he was able to get there within a very few minutes. The symptoms in nearly every case were the same, great uneasiness and the usual signs of colic, but particularly tympanitis, and patchy sweating—which in London he had always thought a very bad sign, but it had not proved a bad sign, in the cases he mentioned. His diagnosis (for his own edification) had almost always been that of a slight impaction of the large colon, because on making rectal examination he nearly always felt the large colon coming up, so to speak, into one's hand as a large doughy mass. His treatment was 2 grains of eserine, immediately followed by the usual oily drink—a stimulant of turpentine in olive or linseed oil, preferably olive oil. The cases nearly always purged very freely in about half-an-hour. The action of eserine continued for about three-quarters of an hour, with violent shaking of the limbs, and then the pain seemed gradually to pass off. He did not leave the horse until he had seen him drink, because when once he would take a good drink of water he considered the case was on a fair way to recovery. With regard to the case of the contractor who fed on mouldy hay, dry burnt up clover, bits of wood, dust, floor sweepings, and any mortal thing, the cases were much more serious. The horsekeeper was not an ignorant man, and knew a good deal about horses, and did not send for a veterinary surgeon unless he thought a case was going to die, but as nearly all his cases died he nearly always sent. There was continuous pain and profuse cold sweating; the extremities became steadily colder, and the pulse more rapid, and the animal died generally with one violent stagger across the loose box, or lying prostrate. Death was generally very quick. The post-mortem showed that every case occurring in that stable had been a case of rupture of the floating colon—15 out of 18 cases had been rupture of the floating colon. Other cases of colic he saw were not very many, and were invariably serious. A local M.F.H. one year paid very big prices for his hunters, and they were carefully attended to and in regular work, but he had seen colic there. The pain had been always continuous and the animal had an anxious look until shortly before death. Every case occurring amongst that class of hunter had died, and on post-mortem a rupture of the small intestestine subsequent to a twist had been discovered. Such cases had taken a long time to die. The pain had been practically continuous, although even on the second day he could remember one horse within six hours of his death being taken out and quite willing to gallop if required. With regard to rectal examination, when an enema was immediately rejected, or when there was violent straining at any attempt to make rectal examination, in his experience no case recovered.

Prof. MACQUEEN did not quite agree with what Mr. Hunting had said, with the exception of that part where he referred to the absolute helplessness in differentiating the symptoms of abdominal pain. Mr. Hunting had mentioned that it was a subject well worthy of research, but he himself should think they had heard a good deal of the results of clinical research that evening, and probably there was more to come. Every veterinary surgeon who was engaged in treating colic was in the habit of studying his cases. It might be that sometimes not much attention was paid to differentiation of symptoms. there being no desire on the part of practitioners to distinguish one form of abdominal pain from another. Certain remedies were found to succeed, and they stuck to them, but that was not the proper attitude to approach the subject of abdominal pain if it was desired to make progress—and he thought some progress had been made with regard to colic. He did not like the term colic himself, and thought "abdominal pain" was very much better, and then one might talk about affections of the stomach, affections of the small intestine, and affections of the large intestine, and of those divisions there were many varieties. He did not agree that what was sometimes called gastric colic was a condition that was apt to be confounded with intestinal colic. He believed it was a very different condition indeed. He was particularly interested with the remarks made regarding perforation, especially with the discovery attributed to Mr. Willis. But Mr. Hunting had not said what part of the intestine was found perforated. Every part of the 100 feet of intestine was not supported by mesentery, and it would be interesting to know whether the double layer of mesentery within which the ingesta had collected belonged to the small intestine or to the floating colon.

Mr. HUNTING. It belonged to the ileum.

Prof. MACQUEEN thought a distinction had to be made in practice. Perforations of the small intestine were usually associated with acute pain. Mr. Livesey's case of the horse living two days and apparently being fit to gallop when taken out was a very remarkable occurrence, and it ought to be recorded. Perforations of the large intestine were not always associated with very acute pain. He had known cases of perforation of the large bowel, with accumulation of the fæces in the peritoneum, where the horses had lived a week to ten days, the chief symptom being obstinate constipation, or failure to pass anything at all. He had been struck by the peculiar absence of acute symptoms in affections of the large bowel. It was exceedingly hard to differentiate the condition, but he believed strongly in rectal exploration. He did not agree with Mr. Hunting that if there was continuous pain in a case for a period of an hour or so the result was generally fatal, neither did he agree with Mr. Hunting's large mortality. With regard to causes, while little was actually known of the proximate causes of colic, something was known about the immediate causes, and he thought there was justification in talking about colic due to indigestion, colic due to the presence of parasites, concretions, and so on. He had not the slightest doubt that there were many fatal cases of colic attributable to the presence of the bacillus coli communis, or to the presence of a gas producing organism—the bacillus aerogenicus. There was colic in the young horse due to obstruction of the vessels of the intestine—an obstructive colic caused by the presence of strongyles in branches of the great mesentery artery. There was also the colic of constipation, which was a very recognisable condition and a very frequent one. Apart from constipation, there was the colic of intussusception, and bearing upon that he should like to ask Mr. Hunting if he thought the bowel in the condition of intussusception was not still contracted post-

mortem. Then there was colic due to the immediate cause of twisting, and colic associated with diarrhœa, where the bowel was empty.

Tympanitic colic probably arose from fermentation, if not complicated by some other cause. With regard to the effects of colic, Mr. Hunting had not mentioned how colic affected the animal. What he wanted to know was whether colic ever proved immediately fatal—was there such a thing as death from colic alone? He held the opinion that no horse ever died from simple colic, that the immediate cause of death was to be found in some lesion. What was the cause of death in tympanitic colic?—was it due to pressure or interference with the respiration? Was there such a thing as death from carbolic acid poisoning induced by colic or some other bowel trouble? There were other causes of death, but he had never found a horse that had suffered during life from colic that on post-mortem revealed no lesion—an impression conveyed to his mind by one of the speakers. He believed that if post-mortems were made with more care, those extraordinary cases would fast diminish in number, if they did not entirely disappear. He thought the old-fashioned treatment was as good; but not better than the modern treatment. It was the custom years ago to sit up with the horse and to remain with him to the finish. It might not do very much good, but a man could certainly improve his own information by studying his case throughout and making those efforts at diagnosis which were too much neglected. There was a great deal to be learnt by waiting on the horse, but it was not the custom at the present time. He believed that any remedy, so long as it was of an anodyne or sedative character, was good enough for abdominal pain. Everybody was anxious to quell the pain and soothe the horse, and there was a good deal of reason in that line of action. The animal was certainly quieted and given a better chance of recovery. Antiseptics were useful, but he had no special regard for Epsom salts or any other remedy of the kind. Choral hydrate was as good an agent as any other, but opium or some preparation of opium might be preferred, and he believed Indian hemp was excellent. Mr. Hunting had said something about the duration of pain in colic. Horses which suffered from abdominal pain, not continuous, but say at short intervals for 8, 10, 12, up to 36 hours, sometimes recovered when attention was given to them. In the average case the animal was either better or dead in 6 hours. It was a very bad sign for a horse to suffer from simple colic for a period longer than 6 hours. He might recover, but the chances were against him. The chief point in forming a prognosis was whether there were intervals of freedom from pain; if there were, he did not pay much heed to the pulse or to the condition of the skin; there was a chance of recovery. Could one succeed in curing horses suffering from abdominal pain by leaving them entirely alone? He understood that expectant treatment had been tried, and tried successfully. It did not appeal to veterinary surgeons, because it was not quite a paying mode of treatment, but at the same time it was a form of Christian Science which might be extended to the lower animals.

On the motion of Mr. Porch, seconded by Mr. Wall, the discussion was adjourned.

HUGH A. MACCORMACK, *Hon. Sec.*

DISEASES OF ANIMALS ACTS 1894 TO 1903. SUMMARY OF RETURNS.

Period.		Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Rabies. Cases Confirmed.		Sheep Scab.	Swine Fever	
		Out-breaks	Animals.	Out-breaks	Animals.	Out-breaks	Animals.	Dogs.	Other	Out-breaks	Out-breaks.	Slaughtered *
GT. BRITAIN. Week ended Dec. 28		27	28			10	46			52	28	160
Corresponding week in	1906 ..	22	31			10	26			25	37	242
	1905 ..	16	19			21	30			25	15	59
	1904 ..	25	26			21	30			53	13	36
Total for 52 weeks, 1907		1089	1466			850	1934			751	2336	11275
Corresponding period in	1906 ..	939	1330			1066	2012			534	1280	7359
	1905 ..	970	1317			1214	2068			918	817	3876
	1904 ..	1023	1533			1507	2628			1367	1188	5566

Board of Agriculture and Fisheries, Dec. 31 1907.

IRELAND. Week ended Dec. 21		..	..	..	..	..	..	..	..	24	3	95
Corresponding Week in	1906 ..	..	..	..	..	..	..	..	..	7	..	12
	1905 ..	..	..	..	..	..	..	..	..	7	..	..
	1904 ..	..	..	..	..	..	..	..	..	10	..	19
Total for 51 weeks, 1907		3	5	..	..	6	11	..	..	297	156	2779
Corresponding period in	1906 ..	4	8	..	..	8	16	..	..	245	95	1103
	1905 ..	4	6	..	..	30	101	..	..	319	127	1416
	1904 ..	4	7	..	..	11	34	..	..	446	300	4134

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 27, 1907

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

Cruelty Charge Dismissed at Plymouth.

Sydney Bennett, of Compton, was summoned for cruelty to a horse on December 3rd, and Chas. King, stableman, Mannamead Mews, for causing the cruelty.

The case was adjourned in order that a veterinary surgeon might be called, it being alleged by Inspector Osborne, of the R.S.P.C.A., that the animal was suffering from navicular disease.

Mr. P. Bond, veterinary surgeon, stated that he examined the horse on Monday. Its condition was very good. It was lame in the right fore limb. The lameness was not very bad, and there was nothing very pronounced to indicate the cause of the lameness, but the animal, being seventeen or eighteen years old, it was little more than stiffness. His impression was that the horse was not suffering from navicular disease.

The magistrates were of opinion that there was sufficient doubt for them to dismiss the case, but, at the same time, they thought Inspector Osborne was perfectly justified in bringing the case forward. The costs of the Society were remitted.—*The Western Daily Mercury.*

Election of Council.

Bye-law 2, Section 3, says "a special blank voting paper shall be sent out to members out of the United Kingdom four months prior to the election, containing a full list of Members of Council, with their attendances, and giving the names of retiring members in red ink, and a list of any candidates nominated at that date."

The latest possible date of issue this year will be February 12th, but the papers may be issued a week earlier. Up to the present there have been no nominations. The members retiring by rotation are:—

Sir J. M'Fadyean	Mr. J. F. Simpson
Mr. R. C. Trigger	Maj.-Gen. H. Thomson
S. Villar	Mr. H. Hunter
J. R. U. Dewar	F. W. Garnett

The Memorial to Dr. Thomassen.

The Executive Committee, constituted for the purpose of raising a fund for the erection of a memorial at the State Veterinary College, Utrecht, Netherlands, to the honour of the lamented Dr. Med. h.c. M. H. J. P. THOMASSEN, invite the attention of the English colleagues to this fact, and beg your valuable assistance toward the realisation of this plan, by publishing the intention of the Committee in *The Veterinary Record.*

Mr. D. F. van Esveld, Utrecht, who is acting as Treasurer to the Committee, will be pleased to receive contributions.

Greatly appreciative of your kindness.—Yours faithfully, H. MARKUS, *Secretary.*

Utrecht, 10 Dec.

Mr. J. J. Bell, M.R.C.V.S.

The fund for providing the poor of Carlisle with a hot dinner at their own homes on Christmas Day, which has now passed its majority, was founded by Mr. J. J. Bell, M.R.C.V.S., who has been connected with the distribution of meals to the deserving poor for upwards of 37 years. He was a member of the Vynne Dinner Committee from its inception, but 22 years ago, in order to ensure that not only the parents but the children should have a seasonable repast, he took counsel with two friends, Mr. Robert Barton, of the Crescent, and the late Mr. Joseph Blain, of Albert Square. These gentlemen agreed to send out dinners to 500 families that year at their own expense. This innovation was so welcome to the fortunate recipients, and the applications received were so greatly in excess of the number of dinners for distribution, that Mr. Bell decided to give the general public an opportunity of assisting in the work, and the Christmas Dinners Fund was established. The response was generous from the commencement, and year by year the Fund has found a wider sphere of usefulness. Mr. Bell conceived the unique plan of securing the Mayor and ex-Mayors of the city for the committee, and at the present time that body, with the exception of himself and Mr. Barton, is composed entirely of gentlemen who have filled the civic chair. Naturally these could hardly be expected to undertake the very onerous work connected with the management of the undertaking, and for the long period of twenty-two years Mr. Bell, assisted by his family, has successfully dealt with all the clerical work and practically carried out the whole of the organisation. What this means may be gathered from the fact that on Wednesday hot dinners and parcels of groceries were distributed to 1,550 families. Last year the number was even higher, and constituted a record. Altogether, considerably over 20,000 dinners have been distributed since the establishment of the fund. At first these dinners took the form of beefsteak pies, but later a reversion was made to the "potato pot." Pathetic little notes of thanks are frequently found in the tins when these are returned. Recently several gentlemen in Longtown have been in communication with Mr. Bell for information which will enable them to provide similar dinners in their district on next New Year's Day, and the committee have agreed to give any assistance they can and to lend the cooking tins—an item of considerable importance. It would seem, therefore, that the work is spreading beyond the confines of Carlisle.—*The Carlisle Patriot.*

Personal.

TATAM—SENDYK.—On the 28th December, at St. Mary's, Farnham Royal, by the Rev. W. H. Wilder, Major W. J. Tatam, A.V.C., son of the late Major John Tatam, to Mary Stuart, widow of the late O. V. Sendyk, Esq., of Bournemouth.

At the Durbar held by His Excellency the Viceroy of India at Mandalay, on Nov. 29th, among the invited guests were Dr. and Mrs. Fras. Evelyn Place.

ARMY VETERINARY SERVICE.

Col. C. Rutherford C. M. G. has been appointed Principal Veterinary Officer in India *vice* Col. J. A. Nunn, C.B., C.I.E., D.S.O., who has resigned that appointment.

Capts. G. P. Knott and F. S. Probyn arrived from South Africa in Transport "London" on 30th Dec., on completion of a tour of Foreign Service.

Lieut.-Col. R. W. Raymond has been transferred from Curragh Camp to London to take up the appointment (temporarily) of Principal Veterinary Officer Eastern Command and London District.

Capt. R. C. Cochrane has obtained the Fellowship Degree Royal College of Veterinary Surgeons.

OBITUARY

JOHN OLIPHANT, M.R.C.V.S., Station Rd., Woolwich. Graduated, Lond: April; 1862.

Mr. Oliphant was 73 years of age. His death occurred on the 17th December.

ARCHIBALD MCNICOL, M.R.C.V.S., Dennistown, Glasgow. Glas: April, 1882.

Mr. McNicol died from pneumonia on 24th December, at the age of 45.

Death of Mr. J. A. Moore.

THE INQUEST.

Mr. Moore, who was about 40 years of age, was a native of Priestland, and resided with his wife and child at Sunnyside House, Causeway View Terrace, Portrush. He was a familiar figure in North Derry and Antrim. Before removing to Portrush, about a year ago, he resided at Union Street, Coloraine, and prior to that had enjoyed a practice at Appleby, Westmoreland.

Dr. Woodside, Coroner for the district, held an inquest on Tuesday morning, 17 December, at the Town Hall.

James Grainger, cardriver, Coleraine, said he met the deceased on Monday about 11 o'clock at the Dock Head, and was in his company for about threequarters of an hour. Deceased left him to go to the Medical Hall for powders, which he said he was going to mix for horses. He again met him about 12 o'clock. They visited the stables where they remained for some time, and afterwards went to the Lancashire Hotel in Causeway Street. Witness was taking some soup, when he observed that the deceased, who was sitting on a seat opposite the window, was sleepy looking, and had his head resting on his hand. Witness lifted his head and said "You don't feel well," but got no reply. Deceased's face was not flushed. Prior to this he had made no complaint to witness about feeling unwell.

Replying to the Coroner, witness said the deceased did not fall off the chair. Witness laid him on his back and put something below his head, pending the arrival of the doctor.

Dr. Martin: Did you notice any life in him when you first lifted his head?—No; it is my honest opinion that he was dead then.

The foreman: Did you see anything strange about him before you went into Mrs. Taylor's?—No; he was in his usual "jokeful" manner.

Mrs. Elizabeth Taylor deposed to the deceased and Grainger coming to the Hotel at two o'clock. She gave some soup to Grainger and then went upstairs. When she came down she noticed the deceased sitting with his head hanging on his hand. She said "what's wrong Mr. Moore?" but got no answer. Grainger then rose and lifted up his head. She sent her little boy in haste for Dr. Martin and Dr. Porter, but neither was at home.

To the Foreman: Mr. Moore got neither tea, soup, nor anything else in her house. He just came in and ordered soup for Grainger.

Charles M'Conaghy, grocer, said Mr. Moore came into his shop about 11 o'clock the previous morning, and told him that he had fallen off his bicyle a few days before, and believed he had broken some ribs. He complained of a pain in his chest. Witness advised him to go to the doctor, and he left with the intention of going to Dr. Martin. When he put his hand to his chest he gave a sort of moan.

Dr. Martin: Well, I saw him at 12, and he said nothing about it. Perhaps the pain had passed away when I saw him.

Dr. Martin, examined, said he had known the deceased for the last 20 years. The last occasion on which he spoke to him was about 12 o'clock the previous morning, and he then seemed to be in his usual health. He never attended him or heard complaint from him at any time. He saw him about 4 o'clock in Mrs. Taylor's kitchen in the Lancashire Hotel. He was then dead, and had been for some time. To the best of his opinion death was due to syncope or failure of the heart's action. He examined the body, but found no trace of a broken rib.

Grainger, in reply to the Coroner, said deceased was perfectly sober when he entered the hotel.

The jury returned a verdict in accordance with the medical evidence.—*The Constitution* (Cork).

CORRESPONDENCE.

FOLLICULAR MANGE.

Sir,

In further reply to Mr. J. Caulton Reeks I am now in the happy position to give him the information he desired. Professor J. Nicolas, of the Lyons Veterinary School, has courteously informed me that not more than one or two drops of a 2 or 2½ per cent. solution of carbolic acid should be injected into the same place in the thickness of the skin. Since his last communication to the *Journal de Médecine Vétérinaire et de Zootechnie* he has treated ten more dogs affected with follicular mange and has had the same favourable results as hitherto.

H. G.

THE TREATMENT OF "DROP."

Sir,

On reading Mr. Flook's letter in this week's *Record*, the thought naturally suggests, itself,—Are all the veterinary surgeons who follow the treatment of Mr. Flook's so-called "Drop" by the Schmidt method, such egregious asses as he would have us believe?

As a practical man with large experience in Milk Fever, and one who has tested the various treatments for this disease as they have been suggested, I say without fear of contradiction that the Schmidt method of treatment has been the means of saving the lives of thousands of cows, and has enhanced the reputation of the veterinary surgeon in the eyes of the agriculturist to a far greater extent than has the treatment of any other disease.

Can Mr. Flook say why this disease, at one time so dreaded by the farmer, has lost its terror since the adoption of this method of treatment?

Mr. Flook actually infers that it is quite beyond the power of the modern veterinary surgeon to successfully cope with cases of this sort. This is certainly not the opinion of the majority of practical men, and they will scarcely be convinced that the apparently patent results of their own treatment have been due solely to the kindly intervention of Dame Nature, whose efforts to bring about recovery they have merely been retarding.

In the treatment of "Drop," as in many other conditions, much depends on the individuality of the practitioner, and it is hard to believe that all our country veterinary surgeons are labouring in vain, although there is one of our number who has sufficient temerity to assert it.

E. R. SMYTHE.

Falmouth.

THE TREATMENT OF "DROP"—WHY NOT "DRIP?"

Sir,

With your kind permission I should like to ask Mr. Flook the following questions:—

1. Where and when did J. Schmidt recommend "iodine salts" for milk fever?
2. Do medicinal doses of chloral paralyse the pharynx?
3. What grounds has Mr. Flook for writing that he believes chinosol is "employed by *the majority*" of practitioners in treating milk fever?
4. Where is it recorded that "*many practical men*" found that injections of pot. iodide "irritated the udder or caused mammitis?"
5. Why does not Mr. Flook give statistics and records of "the splendid results" he had in treating milk fever hypodermically?

I only ask these questions because I think Mr. Flook's *ipse dixit* require a little support.—Yours truly,

G. MAYALL.

Communications for the Editors to be addressed 20 Fulham Road, S.W.

COMMUNICATIONS AND PAPERS RECEIVED.—Messrs. E. L. Stroud, J. McKenny, H. Gray, G. H. Locke, H. W. Billinghurst, J. B. Hare. *The Carlisle Patriot.*

Annual Report C.V.D. Bengal, and of the Bengal Vety. College, 1906-7.

Veterinary Societies—Addresses.

Alterations for this list must be duly notified by the Secretaries

BORDER COUNTIES V.M.S.
Pres: Mr. J. W. Hewson, M.R.C.V.S., Wigton
Hon. Sec. (pro tem.): Mr. F. W. Garnett, M.R.C.V.S., Dalegarth, Windermere
Meetings, Second Friday of Feb., June, and October

CAPE OF GOOD HOPE V.M.S.
Pres. Mr. D. Hutcheon, M.R.C.V.S., Cape Town
Hon. Sec. & Treas. Mr. J. W. Crowhurst

CENTRAL V.M.S.
Pres. Mr. J. Willett, M.R.C.V.S., 6 Harley Place, London, W.
Hon. Sec: Mr. H. A. MacCormack, M.R.C.V.S., 122 St. George's Avenue, Tufnell Park, N
Meetings, First Thursday in each month, except August and September, 10 Red Lion Square, Holborn, at 7 p.m

CENTRAL CANADA V.A.
Hon. Sec: Mr. A. E, James, Ottawa

CENTRAL V.A. OF IRELAND.
Pres: Mr. E. C. Winter, F.R.C.V.S., Limerick
Hon. Sec. Mr. P. J. Howard, M.R.C.V.S., Ennis
Treas: Mr. J. F. Healey, M.R.C.V.S., Midleton

EASTERN COUNTIES V.M.A.
Pres: Mr. F. Low, M.R.C.V.S., Norwich
Hon. Sec. & Treas: Mr. H. P. Standley, M.R.C.V.S. Wymondham
Meetings, Second Tuesday, Feb. and July

GLASGOW V.M.S.
Pres. Principal McCall.
Hon. Sec. Mr. James Lowther

VET. MED. ASSN. OF IRELAND.
Pres; Prin A. E. Mettam, R. V. Coll., Dublin
Hon. Sec: Mr. J. McKenny, M.R.C.V.S., 116 Stephens green-west, Dublin
Hon. Treas: Mr. M. Hedley, F.R.C.V.S, 6 Royal Terrace West, Kingstown

LANCASHIRE V.M.A.
Pres: Mr. A. H. Darwell, M.R.C.V.S., Northwich
Hon. Sec.: Mr. G. H. Locke, M.R.C.V.S. Grosvenor-street, Manchester
Meetings, 1st Thursday in April, June, Sept., & Dec.

LINCOLNSHIRE V.M.S.
Pres. Mr. T. W. Turner, M.R.C.V.S., Sleaford
Hon. Sec & Treas: Mr. G. Lockwood, M.R.C.V.S., Peterborough
Meetings, Second Thursday Feb., June, and October

LIVERPOOL UNIVERSITY V.M.S.
Pres: Prof. Boyce, F.R.S.
Hon. Sec. & Treas: Jno. T. Share-Jones, University, Liverpool
Meetings, May, July, October, January.

VET. ASSN. OF MANITOBA.
Pres: Dr. W. E. Martin, Winnipeg
Hon. Sec. & Treas: Mr. F. Torrance, Winnipeg

MIDLAND COUNTIES V.M.A.
Pres: Mr. F. J. Taylor, M.R.C.V.S., Moseley, Birmingham
Hon. Sec: Mr. H. J. Dawes, F.R.C.V.S., Camden House, High-st., West Bromwich
Meetings, Second Tuesday, Wednesday, Thursday, and Friday alternately in Feb., May, Aug. and Nov.

NATIONAL VET. ASSOCIATION.
Pres: Mr. R Roberts, F.R.C.V.S., Tunbridge Wells
Sec: Mr. William Hunting, F.R.C.V.S.
Treas: Mr. F. W. Wragg, F.R.C.V.S., Whitechapel, London

NATIONAL VETERINARY BENEVOLENT & MUTUAL DEFENCE SOCIETY.
Pres: Mr. W. A. Taylor, F.R.C.V.S., Brick-st, Manchester
Treas: Mr. J. B. Wolstenholme, F.R.C.V.S., Quay-street, Manchester
Hon. Sec: Mr. Sam. Locke, M.R.C.V.S. Grosvenor Street, Oxford-st., Manchester

NORTH OF ENGLAND V.M.A.
Pres: Mr. J. Davidson, M.R.C.V.S., Westgate Road, Newcastle-on-Tyne
Hon. Sec: Mr. E. R. Gibson, M.R.C.V.S. 25 Marlborough street, Seaham Harbour
Meetings, Third Friday, Feb., May, Aug. and Nov.

NORTH OF IRELAND V.M.A.
Pres: Mr. J. J. Ross, M.R.C.V.S., Belfast
Hon. Sec: Mr. J Greig, M.R.C.V.S., Belfast
Hon. Treas: Mr. J. A. Thompson, F.R.C.V.S., Lurgan

NORTH OF SCOTLAND V.M.S.
Pres: Mr. James Peddie, F.R.C.V.S., Nethergate, Dundee
Hon. Sec. & Treas: Mr. Geo. Howie, M.R.C.V.S., Alford, Aberdeen

NORTH WALES V.M.A.
Pres: Dr. G. J. Evans, M.R.C.V.S., Bangor
Hon. Sec. & Treas. T. C. Howatson, M.R.C.V.S., St. Asaph
Meetings, First Tuesday, March and September

ONTARIO V.A.
Pres: Mr. J. H. Tennent, V.S., London, Ontario
Sec & Treas: Mr. C. H. Sweetapple, V.S., Toronto, Ontario

PROVINCE OF QUEBEC V.M.A.
Hon. Sec: Mr. Gustave Boyer, Rigaud, P.Q.

ROYAL COUNTIES V.M.A.
Pres: Mr. R. Craig Tennant, F.R.C.V.S., Thames Street, Windsor
Hon. Sec. & Treas: Mr. Percy J. Simpson, F.R.C.V.S., Kendrick House, Maidenhead
Meetings, Last Friday, Jan., April, July and Nov.

ROYAL SCOTTISH V.S.
Pres: Mr. Reid, M.R.C.V.S, Auchtermuchty.
Hon. Sec:

ROYAL VETERINARY COLLEGE M.A.
Pres: Dr. Lauder, D.Sc.
Hon. Sec: Mr. T. C. Graves, M.R.C.V.S.
Assist. H.S. Mr. H. J. Allen

SCOTTISH METROPOLITAN V.M.S.
Pres: Mr. John W McIntosh, M.R.C.V.S., Eskbank, Dalkeith
Hon. Sec: Mr. A. Gofton, M.R.C.V.S., Ryl. Dick Vet. Coll.

SOUTH DURHAM AND NORTH YORKSHIRE V.M.A.
Pres.: Mr. J. Wilson, M.R.C.V.S., Yarm
Hon. Sec: Mr. W. Awde, F.R.C.V.S., Stockton-on-Tees.
Meetings, First Friday, Mar., June, Sept. and Dec.

SOUTHERN COUNTIES V.S.
Pres: Mr. R. Roberts, F.R.C.V.S., Tunbridge Wells
Hon. Sec: Mr. J Alex. Ford, M.R.C.V.S., Worthing
Hon. Treas: Mr. E. W. Baker, M.R.C.V.S., Wimborne
Meetings, Last Thursday, Mar., June and Sept.

TRANSVAAL V.M.A.
Pres: Mr. J. M. Christy, M.R.C.V.S., A.F.V.S., Pretoria
Hon. Treas: Mr. J. H. Bell, M.R.C.V.S., D.V.S., Krugersdorp
Hon. Sec: Mr. T. H. Dale, M.R.C.V.S., D.V.S., Potchefstroom

WESTERN COUNTIES V.M.A.
Pres: Mr. John Dunstan, M.R.C.V.S., Liskeard
Hon. Sec. Mr. W. Ascott, M.R.C.V.S., Bideford
Hon. Treas: Mr. P. G. Bond, M.R.C.V.S., Plymouth
Meetings, Third Thursday, March, July and November

WEST OF SCOTLAND V.M.A.
Pres: Mr. James Weir, F.R.C.V.S., 24 Pollock st., Glasgow
Joint Hon. Secs & Treasrs:
Messrs. Hugh Begg and John R. McCall, Vetv. Coll.
Meetings, Second Wednesday, May, Oct. and January.

YORKSHIRE VET. ASSOCIATION
Pres: Mr. J. McKay, F.R.C.V.S., Ramsden st. Huddersfield
Hon. Sec: Mr. J Clarkson, M.R.C.V.S., Garforth, nr. Leeds
Hon. Treas: Mr. H. G. Bowes, M.R.C.V.S., 106 Clarendon-road, Leeds